SUPPLEMENT.

The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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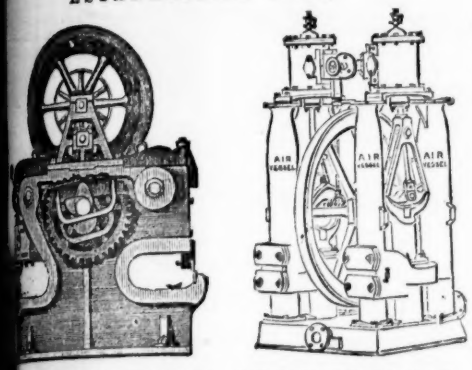

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PARIS, BRONZE MEDAL, 1867.

ORDER OF THE CROWN OF PRUSSIA.

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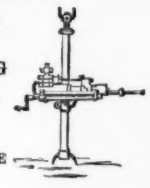

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Mr. T. B. STEWART, Manager of the Duke of Buccleuch's Mines, Wanlockhead, Abington, N.B., writing on 20th March, 1876, says—"I have much pleasure in stating that a full and superior set of your Ore Dressing Machinery has been at work at these mines for fully a month, and each day as the moving parts become smoother, and those in charge understand the working of the machinery better, it gives increasing satisfaction, the ore being dressed more quickly, cheaply, and satisfactorily than by any other method."

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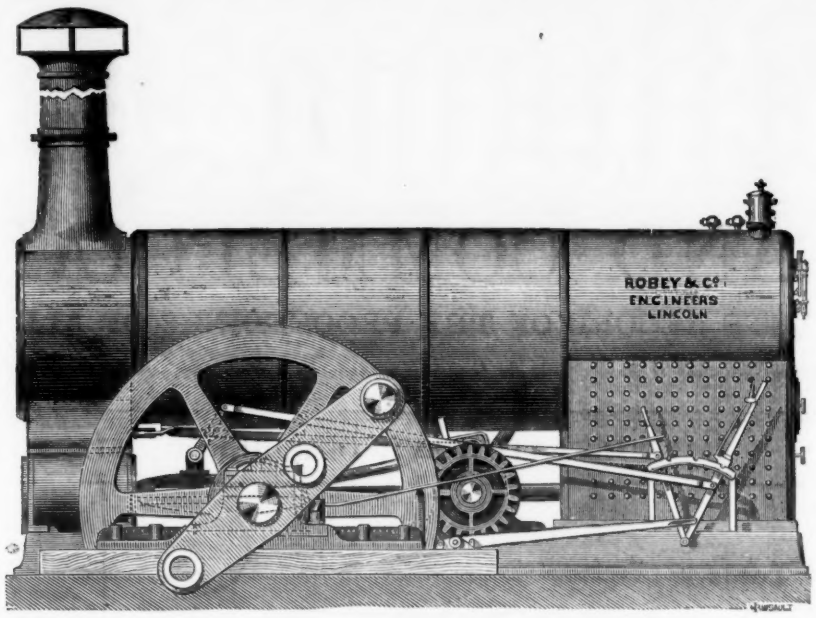

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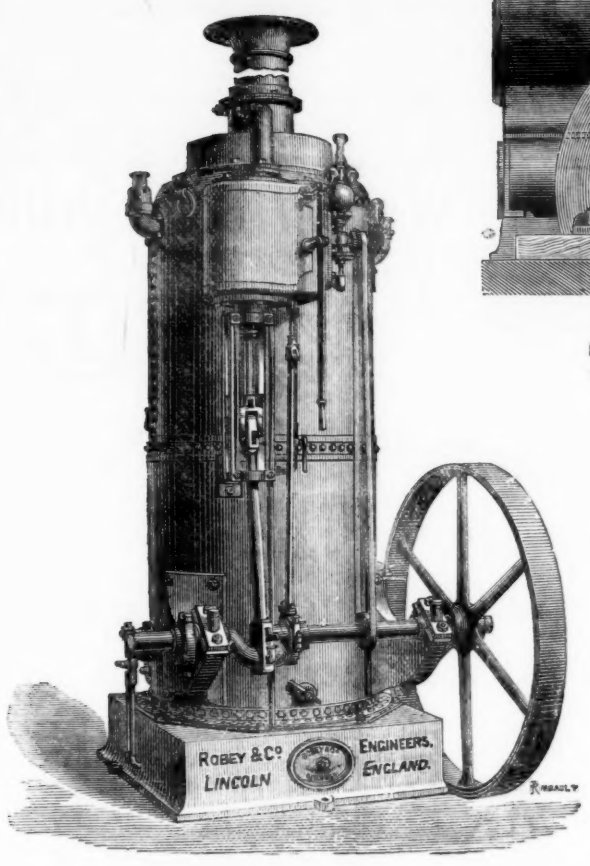

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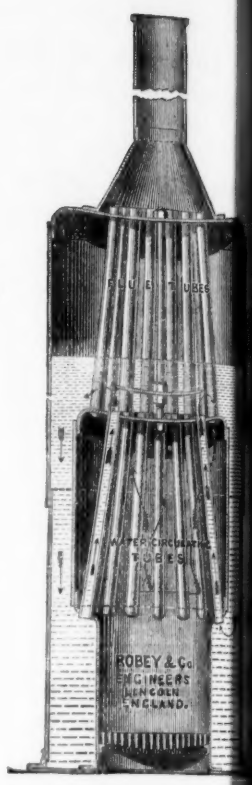

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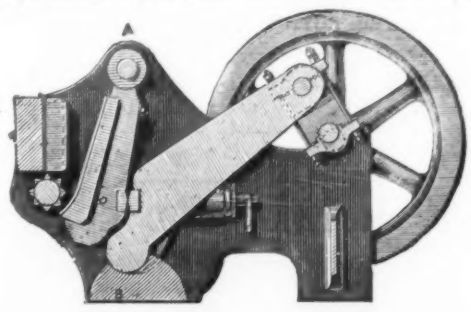

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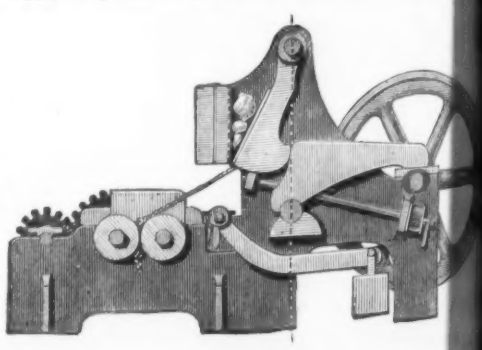

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Original Correspondence.

THE COAL FIELDS OF SCOTLAND—No. I.

The entire coal districts of Scotland have an area of about 1720 square miles. The divisions of the coal field are caused by elevated ridges of Old Red sandstone and Silurian rocks, or by the upheaval of trappean rocks. The coal field extends from the coast of Ayrshire on the west, in a north-east direction, to the Frith of Forth and the North Sea on the east, having a breadth varying from 20 to 30 miles. The northern boundary runs from Ardrossan to near Kilsyth, Stirling, and Cupar. The southern boundary is irregular, between Southern Ayrshire on the west, to Dunbar on the east, lying on the slopes of the Moorfoot and Lammermuir hills; the coal field here is much intruded upon by projections of Devonian and trap rocks running into it.

The general features of the Scottish coal fields make them distinctive from the other coal fields of Britain, the principal of which is the number of coal seams deposited in three series. In Derbyshire the mountain limestone is entirely a mass of calcareous matter; while Lancashire thin seams of coal are found in the millstone grit; further north, in Northumberland, limestone, sandstone, shale, and several beds of coal appear in the carboniferous limestone. Further north, in Scotland, the beds of coal in the carboniferous limestone are more largely developed, and thus we have in the Lanarkshire coal field, intersected by the valley of the Clyde, the following, as described by Mr. R. Moore:—

1—The true coal measures, containing 10 workable seams of coal and 3 of blackband ironstone ... ... 840 ft.
2—The millstone grit, or "Moorstone rock" series ... 960 ft.
3—The lower carboniferous series, with several beds of good coal and 3 of blackband ironstone... ... ... 2200 ft.

The coal fields of Scotland produce nearly every description of coal: anthracite is obtained in the district near Kilmarnock; house coal is furnished generally throughout the districts; cannel of unrivalled quality is found at Lesmahago—this description of coal is also found in the neighbourhood of Dalkeith, in the Hamilton district, near Glasgow, and in Fifeshire. The Splint seams furnish good fuel for iron making and steam purposes. There are also vast deposits of blackband ironstone; this was first discovered in the Airdrie district, and was considered as being confined to it, but it is now found to accompany the seams of coal, more particularly in the Lanarkshire and Ayrshire districts.

Volcanic matter has been poured out in great abundance at the end of the Devonian era, lying in beds under the carboniferous system. Volcanic eruption has been active at a later era; whinstone has been injected through rents in the strata; three whinstone dykes are found in the Midlothian coal field; that at Preston pans is 60 ft. in thickness, and can be traced for many miles. The Fifeshire coal field is also much broken up by faults; the result of the same internal action which has elevated masses of trappean rocks, and formed the divisions in the coal field.

The principal coal fields are—
1—The Lanarkshire coal field, intersected by the valley of the Clyde.
2—The Ayrshire coal field.
3—The Fifeshire coal field.
4—The Midlothian and Haddington coal field.
5—The Clackmannan coal field is separated from the Lanarkshire by the Frith of Forth, and may be considered as a part of the latter. There are several isolated patches of coal strata on the southern part of the field, as at Lesmahago, occasioned by the irregular contour of the hills on that side. The Lesmahago strata produce a rich cannel, and other beds of coal and ironstone.

The Brora coal field occurs in Sutherlandshire, the northern county of Scotland; one seam of 3 ft. 8 in. in thickness has been worked by the family of the Duke of Sutherland; the first pit was opened in the year 1598. Up to the year 1827, 70,000,000 tons had been raised. The coal belongs to the lower oolite formation, and is contemporaneous with the oolitic coal, worked to some extent in Yorkshire. There are also small tracts of coal at Campbelton, in Argyleshire, at Sanquhar, in Dumfrieshire, and oolitic coal in the Isle of Skye.

On account of the coal fields of Scotland being so much broken up by faults, and the slight depth of the sinkings hitherto, but a small quantity of coal is worked from one pit, or pair of pits. An establishment comprises one pit or a pair, for upcast and downcast current, winding engine, usually horizontal on the second motion, or a beam engine with drum outside of the house. The winding engine is often applied to raise water in the night time; in other cases, when abundant, water is raised by a separate pumping engine. No difficulties are met with with respect to large quantities of water, nor depth to be sunk with the pits such as are frequently found in Northumberland and Durham. In some cases the area of workings to a pit is limited that it is considered better to convey coal to the bottom of the pit by manual labour only; in other more extended mines horses are used for this purpose, and now hauling by steam power with compressed air is being adopted as the depth increases with lower seams being worked.

The production of coal in Scotland was:—

In 1854, 7,448,000 tons, from 367 collieries = 70 tons per day.				
1864.	12,400,000	„ 497	„ 87	„
1875,	18,597,507	„ 566	„ 114	„

In these calculations 286 days are assumed as working days in a year. At some collieries there will be two or more working pits, so that the average of coal raised from each pit will be less than is given above.

Coal-Cutting Machines in Scotland.—If the hope is entertained that the general introduction of coal-cutting machines will do away with the differences so frequently arising between the employers and workmen, such a hope I fear would result in disappointment; the most practical mode of settling these differences seems to be in the adoption of a sliding scale for wages, on the basis of the selling price of coal, varying as it does from time to time. The benefits to be derived from the adoption of mechanical coal cutters are the alleviation of the miner's work, and a minimum proportion of small coal; the latter would be greatly to the advantage of colliery-owners, as small coal is, especially in times of depression in the trade, almost unsaleable, and is always sold at much below the value of large coal. It is noteworthy that so little success has attended the making of fuel from a combination of small coal with some other binding material; this circumstance will go far to induce owners of collieries eventually to adopt coal cutters in order to get a profitable disposal of their coal. The Gartsherrie coal-cutter has been introduced by the firm of Messrs. Wm. Baird and Company to meet these requirements; that is to make the percentage of large saleable coal as great as possible, and to reduce the cost of production; the latter may be effected in various ways, by economy of labour, reduced area of workings in operation, and saving of timber, and by less amount of capital expended in providing workmen's cottages. In the Gartsherrie coal-cutter—as is well known—the cutter picks are attached to an endless chain, which works round a jib, extending into the undercut in the coal; the usual projection of the jib 9 in. under the coal, but this can be made up to 5 ft. if required, and as so little depth is required for the jib the undercut can be made so low as 2½ in., which gives a very small percentage of dross or small coal—varying, of course, with the height of seam. The machine is carried upon a sole plate of malleable iron 6 ft. by 2 ft. in width, resting on four wheels. Two 6-in. cylinders 9 in. stroke, are fixed diagonally on the frame with pistons working to the upright crank shaft. A small pinion at its lower end is geared into a wheel fixed on another upright shaft, the pinion and wheel being in the ratio of 1 to 4 in. diameter. At the lower end of this second shaft is the paw or chain wheel, which gives motion to the endless chain, and with the cutters fixed on it performs the undercut. The chain is made from cast-steel and the cutters of tool-steel. The jib is made so as to turn quite around underneath the machine. The machine feeds itself by means of a drum and chain working round a pulley, which is fixed to a prop in advance. The cutters are usually driven by compressed-air, at a pressure of 40 lbs. per square inch, conveyed by cast-iron pipes from the top of the pit. The machine altogether, including the rails, stands from 20 to 24 in. high, and is thus adapted for this reason alone for working very thin seams, though the small depth of undercut (2½ in.) renders it peculiarly adaptable to thin seams. When in operation each machine is attended by two men and one boy, and the work is done at night time in a shift of from eight to ten hours. About 20 of these coal-cutters are in operation at the works of Messrs. Wm. Baird and Co., and 25 others in various parts of England and Scotland; some of these are of an old type, but the machine as now improved by the patentees, after 10 years of experimenting, has given surprising results in undercutting coal, from information which was laid before me by Mr. James Brownlie, 33, Bath-street, Glasgow, from whom all details as to work performed and cost can be obtained. The work performed by one machine in a seam of coal 2 ft. 10 in. in height is from 300 ft. to 350 ft., the coal being moderately hard, time nine hours including stoppages. Allowing for waste in undercutting, in this case the production of coal in 320 ft only would be about 75 tons in a shift; but in working a seam of 5 ft. 4 in. thickness the production of coal would be about double, or 150 tons in a shift; under these circumstances four of these machines would maintain an output for a colliery raising 600 tons daily. The coal usually falls down of itself after it is undercut, and the operations of breaking up and filling are performed by other workmen in day time.

I may state that Messrs. Baird and Co. are laying out one of their collieries at Bothwell Park, on an entirely new principle. The colliery has been about 18 months in operation, and from 500 to 600 tons of coal is raised in a day from two pits 284 fms. in depth. The Gartsherrie coal-cutter undercuts the coal, four of them being in use, and the hauling underground is all effected by machines driven by compressed air. An air-compressor is placed at the top of each pit, the descending pipe in the up-cast pit being 9 in. in diameter; in this colliery the operations are performed entirely on new principles of mining, and there is no doubt the advantages I have before alluded to will eventually be obtained by the proprietors. There is another use to which these cutters have been applied in Scotland—that is, in the oil shale works of Mr. Young. The undercutting of the oil shale—a mineral much harder than coal—is effected by strong machines, on the same principle as the coal-cutters, but with cylinders of from 7 to 8 in. diameter, and of stronger parts; two such machines are, I understand, at work, and give some good results.

THE SUTRO TUNNEL.

Sir,—I have read the description of this work in the Journal of Sept. 22, and am glad to find it so near completion. Your correspondent is evidently not a miner, and I fear if many share his views of the benefits to be derived from the tunnel they will be disappointed.

The tunnel will be 20,000 ft. long, and will cost 720,000*l*. It will tap the Comstock lode at 1800 ft. from the surface; but as the various workings on this lode occupy a length of more than three miles the tunnel will be of no use to them until they are connected with it. In new sinkings machinery must be erected in the first place, and the same machinery will haul the ore to the surface, and the water also.

The minerals and water from the workings below the level of the tunnel (and the principal mines are all below 1800 ft.) will have to be raised up to that level, and as in all probability the engines for raising it will be erected on the surface the extra 1800 ft. would not add much to the cost of raising the ore.

Your correspondent puts the cost of raising the ore at $3 per ton, but this must be an error. Coals can be drawn 300 fms. at 2d. a ton, and suppose fuel and wages to be ten times it would only be 20d. per ton, or less than half-a-dollar; but as there will be machinery needed to draw the ore from the workings below the tunnel there will not be much saving on this head. As to ventilation any practical man knows that the shorter distance the air has to travel the less is the friction, and, of course, the easier the ventilation; and if a pair of shafts of 15 or 20 ft. diameter, 1800 ft. deep, were sunk from the surface, and a 30-ft. fan put on them, there would be vastly more air than would pass through the four miles of the Sutro Tunnel.

The probable benefits of the tunnel are, therefore, narrowed down to the drainage of the lode to a depth of 1800 ft., and if this be all we have the cost of draining dearly bought. Thus the interest of 720,000*l*. at 10 per cent. per annum is 72,000*l*.

I understand the feeder raised by all the engines upon the Comstock lode is about 1500 gallons per minute. If, therefore, the advantage of the tunnel be confined to the drainage only we have the cost of raising 1500 gallons per minute 1800 ft. high 72,000*l* per annum. I rather think some of our Cornish engineers would do it for less.

An Engineer.

THE PRODUCTS OF COAL.

Sir,—In the Journal of Sept. 22 were noticed some of the valuable products obtained from the refuse of coal, including the beautiful aniline dyes, as well as madder, carbolic acid, paraffin, prussic acid, sulphur, ammonia, scents, essence, &c., but as the field is a large and interesting one, in which it appears several of your readers wish to know more about, I now purpose to give the names of more valuable chemicals that are produced by the distillation of coal. In the making of gas it may be said a certain quantity of sulphur is left, which is converted in sulphuric acid, or oil of vitriol, whilst from the tar water, which is mixed with muriatic acid, we have sal-ammoniac, a most valuable product, at one time obtained from Egypt only, where it was extracted from the soot of camel's dung. From the gas-water also various ammoniacal salts are obtained, ammonia—the great fertiliser—being in such abundance that it has been stated that if all the ammonia produced annually from coal in London alone were collected in its pure dry condition the yield would be nearly 4000 tons. Different coals, however, vary a good deal with respect to certain productions; cannel, for instance, giving the largest yield of gas, whilst another description known as Albert coal, when distilled brought out kerosene, from which when again put through the still gave kersolene, which has been extensively adopted in the place of chloroform, containing nearly all its properties, and is also used for several other purposes. Benzol is another valuable article obtained from the most volatile parts of coal tar, and easily dissolves india-rubber, and the solution obtained from the combination of the two is found most effectual for waterproofing various fabrics. Napthaline, one of the hydrocarbons, is produced in large quantities in the manufacture of gas, and is a beautiful pearly substance, and dyes silk or wool a fine yellow colour of almost any shade without a mordant of what are called the tar acids. Phenol is one of the most valuable, being a powerful antiseptic, and under its influence all minute forms of mineral existence perish, and from it also we have a fine dye, the yellow picric acid of what may be termed the inferior products of tar; we may mention the coal-tar soap, certainly one of the most agreeable and effectual soaps we have ever used for making the skin smooth and soft and removing discolourations, being like the tar acids a powerful antiseptic. The coal-tar dyes are used for numberless purposes, for they give a colour to imitate pearls and precious stones, as they do also to paper, glass, ink, medicines, wines, candles, tapers, leather, and even to those alluring medicaments that are said to be capable of bringing back age to youth by restoring the hair and complexion to the original colours, and even the artificial gums that look so beautifully soft and pinky are indebted to the coal tar for their charming tint. But, as was stated in a previous letter, the products of the distillation of coal are as various as they are numerous, and are now classed under various heads. Under that of fatty hydrogen we have hydrogen marsh gas, paraffin, amylic, hexylic, oxylic and decylic hydrides. Of the olyfines there are ethylene, tetrylene, heptylene, and acetylene. Aromatic hydrides include benzol, toluol, xylol, cumil, and cymole; then there is styrolene, napthalin, anthracene, chrysene, and retene. In the phenol series we have phenol, creosol, hydric sulphide, carbonic oxide, sulphur dioxide, hydric cyanide, and sulphocyanide, ammonia, aniline, &c. Under the heading of pyridines we have collodine, pyridine, picoline, leucoline, cryptodine, rubidine, pyrrhol, &c. From the above enumeration it will be seen that from gas-tar has been produced a number of products which are now largely used not only in our laboratories but in a variety of trades as well, to the great advantage of the public, and brilliant as has been the previous history of the refuse of our coal, we believe there is a still brighter day in store for it.

D. F.

THE TELEPHONE FOR RAILWAY SIGNALLING.

Sir,—The Telephone was exhibited at the Conversazione at the Town Hall this week with considerable success. Can any of your correspondents inform us whether it has been applied to railway signalling, which would be more satisfactory to many readers than the present steam whistles?

C. Butler Clough.

Baughton House, Chester, Oct. 4.

CAPE COPPER MINING COMPANY.

Sir,—Having been an investing shareholder in the above company for some years I read the remarks upon its affairs in last week's *Mining Journal* with much surprise, as it was calculated to give an impression that the excellent management of the company, which has produced to the fortunate shareholders such good fruit, had undergone some change. I have, accordingly, carefully looked at the published reports and statements which I have received from the company for some time, and the result is that I am still more surprised at the tone of the article, as I am sure you would not willingly assist at any unjust attack on the company. I trust you will in your next issue publish the following facts, taken from the company's reports, which are now before me, and I would remind you how reliable have been all the company's statements, and how fully it has been proved that its directors have always evinced the greatest readiness to put before the shareholders every fact, both good, bad, and indifferent.

Now, what are the facts shown by the reports from the meeting in 1872 to the meeting in 1877:—

Liabilities.

	General.	Debentures.
1872...	£139,693	... £21,000
1877...	122,278	... —
Decrease	£ 17,415	... £21,000

Mine Reserves.

1872, 29,584 tons; 1877, 38,000 tons: increase, 8416 tons.

Returns of Ore.

1872, about 8000 tons per annum; 1877, about 12,000 tons per annum.

Railway.

1872, partly constructed at a cost of	£ 59,045
1877, completed at a cost of	167.866
Expended in five years...	£108,821

So, therefore, the directors of the Cape Copper Mining Company have so badly treated us that they have, whilst paying to us nearly 60 per cent. on the capital, built us a railway at an average cost of 20,000*l*. per annum, have paid off the mortgage of 21,000*l*., and have reduced the company's other debts by a further 17,415*l*.—a total improvement of about 140,000*l*. in the company's position in five years. They have done all this without asking us to put our hands in our pockets for a single shilling, or causing us a moment's anxiety.

Taking the fact as stated in the Journal, that including only sales of ore made prior to the payment of the last dividend a sum of 21,000*l*. was earned (20,000*l*. being sufficient for the usual dividend), the directors would have falsified all their previous proofs of steady carefulness had they broken the regularity of the dividends because of a fall in the price of copper ore that may be, and probably is, only temporary, especially as it is perfectly well known that even at present prices the Cape Copper Mining Company is making large profits, owing to the great reduction in expenditure which the directors have effected.

An Original Shareholder.

Oct. 4.

THE FLAGSTAFF MINING COMPANY.

Sir,—I have been patiently waiting to see some account of the stewardship of the present board of directors, and a few days since I received the report, which I must say, in the present existing state of the mine, seems to be nothing to what it ought to be. I shall be only too glad if the following questions are answered, so that I may really believe what that report states—that the whole of the debts due by the Flagstaff Company amount to 30,000*l*. There is a paragraph in the report mentioning that Mr. Hunter has been removed. Am I to understand that the terms of settlement with him are included in the 30,000*l*., and also am I to suppose that Mr. Davis's suit has been amicably settled? Rumour says the board have had to hand to Mr. Hunter $100,000 to $160,000 in settlement of his claim. I want to know how Mr. Hunter, a former director, got into such a position as to obtain this large sum in less than 12 months? I want to know whether Mr. Hunter is not the same person who failed in Warrington in 1876, and has not to the present time received his discharge? I want to know whether the directors, when they granted the lease of the mine to him in November last, were not aware of this fact, and, if so, what precaution and securities they took? May not the company be called upon by Mr. Hunter's trustees to pay twice over? It is long since the shareholders were called together, and serious questions have now arisen, and I am surprised to find the report has been published without any notice of meeting being given. In order that these matters may be investigated, and the truth of the matter arrived at, I must request that the directors will reply to these questions, and call a meeting of shareholders.—*London, Oct. 4.*

An Anxious Shareholder.

CARDIGANSHIRE MINES.

Sir,—The general topic of conversation throughout this district is the great, and I may say wonderful, discovery of copper ore at Esgair Ffraith, in the sinking of the engine-shaft, which is now down from 12 to 13 fms. under the 10 fm. level. The value of the lode may be estimated from the fact that it is the most ponderous ore I ever handled, and as there is scarcely a particle of waste in 3 ft. wide of the lode, I do not think I shall be out of the way in estimating that every 3 in. of this 3 ft. will produce 1 ton of copper ore. I had the pleasure of handing two stones of the ore, broken on Saturday last, to Prof. Warington Smyth, who was passing this way, and he seemed to be much struck at finding such ore in Cardiganshire. One of the stones he said was composed of six different kinds of ore—malachite, black oxide, red oxide, bell metal, peacock, and sulphuret, or yellow copper. I shall not be over-estimating its produce at 35 per cent. of copper. I shall not attempt to go into any estimate of the value of this discovery, as it would be almost absurd to attempt to calculate what it may lead to. I would, however, call attention to Mr. Tredinnick's letter, which appeared in last week's Journal, where he states "that the gossan of the same description has been passed over for nearly 100 fms. long in the adit level." This is not only a fact, but the length of the gossan has not yet been ascertained, as it stands equally as good in the end of the present adit level as it did where the engine-shaft was commenced under adit. There cannot be a doubt that as long as the gossan continues without a change, or unbroken in the adit level, so long will this immense course of copper continue under it. There can be little doubt that the directors, and probably some of the shareholders, may soon be visiting their property, and if they do so they will see such a sight as may not be witnessed in a lifetime again. Although the portion of the lode carried in sinking the shaft is 3 ft, the lode is 20 ft. wide, and will undoubtedly prove exceedingly rich throughout when taken down. I am also glad to say that the other points at work in Esgair-Hir are opening out splendidly.

So much for the Cambrian Mines, and now a word or two for Tyn-y-fron, where the men continue to strip down the lode left standing to the south, and where it improves very much, particularly so for lead ore, for which alone it could be wrought for 10s. in 20s. There can now be little doubt that not only is this property very rich for blende, but also for lead, and the more I see of it the more I am convinced this is so, and that this will soon become a good dividend-paying mine. Cwm Brwyno is on the point of starting, with prospects that cannot fail to lay open a rich mine quickly.

Frequent attempts have been made to baffle the starting of Cwm Erfin by unfair and untrue statements. It would be an eyesore to

those who were connected with the working of this mine to see it open out, as it must and will do, one of the best and most durable of the silver-lead mines of Cardiganshire. Not many weeks will pass before this mine will be fairly started and fairly worked, and if this latter had been the case Cwm Erfin had not been suspended.

The South Cambrian Mine which adjoins the Cambrian Mine, and is to the south of it, on a parallel lode 20 ft. wide. It has opened out a paying vein for 70 fms. long, and only wants machinery to bring it into a state of returns and profits, and I have no doubt that what Mr. Warington Smyth said will prove to be true—"that the great discovery made at the Cambrian Mines must have a great effect for good in Cardiganshire mining." I trust it may be so. I believe it will be so, and that with boring machinery (which is being introduced at Cwmystwith), stone-breakers (which are at work at South Darren, Great Darren, Goginan, Ystymtyhen, and, I believe, one or two other places), and the improved dressing and jigging apparatus that the Cardiganshire mines, even if only moderately managed, would become the greatest and the richest mineral field in Great Britain. Will no one lay hold of the present opportunity for investment in home mines? ABSALOM FRANCIS.

Aberystwith, Oct. 3.

PROGRESS OF MINING IN THE ESGAIR-HIR DISTRICT, CARDIGANSHIRE.

SIR,—It will be a source of great satisfaction to all interested in mining to hear that notwithstanding the low price for lead and copper ores, and other opposing influences, a considerable step in advance has been made in this district by a private company—Messrs. Masons and Richards—at the old Ystradeinion Mine. On Friday, Sept. 21, these enterprising, energetic, and persevering gentlemen gave a sumptuous dinner to their workmen, agents, and several gentlemen from Aberystwith, Bow-street, and Llanidloes on the starting of their new pumping, winding, and dressing machinery at this mine, which had to be fully inspected by independent and competent authorities for both proprietors and the contractors. For this purpose, and previous to dinner, Messrs. Mason and Richards, accompanied by Mr. J. Davies, civil engineer, the contractors, agents, and other gentlemen, started in the first place for the new and commodious engine-shaft, which has been sunk down 30 fms. from surface, and communicated with the 12 fm. level from the first shaft sunk under the deep adit level and old workings to this level, pumps and pitwork have been fixed and arranged, the shaft well timbered, cased, and divided, good poppet-heads erected, and shaft-brace most complete, and all of the best material. The water-course, which is adequate for all purposes, and through which a never-failing supply of water has been brought from the Einion river, and other large contributory streams, a distance of more than 1½ mile from the mine, is the source from which all the machinery is supplied, and from which point a fall of nearly 200 ft. is obtained. Some few feet below the watercourse, and as close to the new engine-shaft as practicable, a 22 ft. 6 in. water-wheel has been erected, 3 ft. 6 in. breast, for pumping and drawing, and which is capable of taking the shaft down 100 fms. This wheel, with pumping gear and appendages, and drawing machine, are of the best materials and construction, well erected, and works with much ease. Leaving this point we descend the slope of the hill to the stone-breaker and crushing mill, which are worked by a 30-ft. water-wheel, 3 ft. 6 in. breast, and with the same water as the last water-wheel alluded to. The stone-breaker is an excellent machine, and so is the 22-inch crushing-mill, both doing their work admirably, and with the greatest ease. A little below these, and outside crushing-mill walls, is a patent jigger in six compartments, with cog-wheels, shafting, and all other necessary appendages, made of good strong materials, and capable or turning out 200 tons of ore per month. This is worked by an 18-ft. water-wheel, 3 ft. 6 in. breast, and with the same water as the 22 ft. 6 in. and 30 ft. water-wheels. To the same wheel is attached by cog-wheels, shafting, and belts, two 20 ft. diameter round buddles, all very complete and in capital working order, and a few feet below this wheel preparation has been made not only for catching the slimes but to purify the water from any noxious matter from the washings that it might contain. For this purpose 13 large and separate ponds have been made, covering an area of 800 square yards, and not less than 4 ft. deep, in addition to which are several large wooden launders or tanks after the model of the Prussian system, which it is believed will not only tend to economical working, but also be in harmony with the requirements of the River Pollution Act. After viewing the several month's stock of ores lying at different points on surface, the great convenience and economical arrangements of all the machinery for future working was alluded to by all present with admiration, and reference in particular was made to the manipulation of the mineral on being landed at the top of the new engine-shaft, from which point it is discharged into the stone-breaker, which in turn discharges into the crushing-mill, whilst the crushing-mill discharges into classifiers, patent jigger, and round buddles, all this without being turned over by manual labour, or handled in any respect, so that the mineral as drawn to surface is made almost marketable in one direct and continuous process.

Our inspection here ended, everyone being much pleased and well satisfied with all they saw, and dinner being now announced, the workmen, agents, and guests sat down to a capital and substantial repast provided by the worthy proprietors of the mine. Mr. Mason occupied the chair, Mr. Richards the vice, and Capt. Thompson presided at another table. The usual loyal toasts having been drunk, Mr. Danes, C.E., proposed "The Health of the Proprietors of the Ystradeinion Mine," wishing them every success in the mine, and coupling with the same Mrs. Mason's name, who had so much contributed to the happiness and comfort of the workmen, and all in the room on that occasion. (Much applause.) The toast being drunk with great enthusiasm, Mr. Mason (who on rising was received with great cheering) proceeded to return thanks for himself, and made a most humourous reply on behalf of Mrs. Mason. He then alluded to his first connection with the Ystradeinion Mine six years ago, stating that since that time he had had many difficulties to contend with, but never for a moment felt daunted. He had started with the deep adit in the lode, and found it so strongly mineralised that he determined to sink deeper. The first 12 fms. sinking showed much improvement, when the water became too much for further sinking without the aid of machinery. This was provided, and a 16-ft. water-wheel with pumps, pumping gear, and drawing machine, were at once erected in the deep adit level underground: 12 fms. deeper was then sunk, with a further and decided improvement in the lode, and in the drivages from this sinking mineral of such value was met with that he determined to proceed on a larger scale, and with this view his brother, and the late Mr. Richards had joined him in the work of sinking a new engine-shaft from surface and in putting up the necessary machinery they had seen that day, as also in the further prosecution of the underground workings, and he could only conclude by saying that he believed success would now attend their efforts, as he thought everything had been done, and well done, to deserve it; and he, with many others, believed that a successful issue was now close at hand. (Very great applause). Mr. Richards then rose, and was greeted with great cheering. He said that it gave him especial pleasure and satisfaction to be amongst them that day, and thanked them all most sincerely for the compliment paid him. He then referred to the duties of capital and labour, and expressed his opinion that whilst each had the respect of the other harmony would always exist to the benefit of both. He then referred in feeling terms to his uncle, the late Mr. Richards, by whose death he had become connected with the mine, and to his deep regret that he had not lived to see that day—a regret shared in by all present, especially those who had met the deceased gentleman on his first becoming connected with the mine. Mr. Richards then referred in flattering terms to the services of their agent, Capt. Thompson, who deserved their best thanks, and who had by his energy, carefulness, and attention to the mine contributed very much to the success of that day, and hoped the company would join him in drinking his health.

Capt. Thompson thanked Mr. Richards and all present in very appropriate terms for the honour done to him, and then especially referred to the harmony existing between the proprietors, their workmen, agent, and consulting engineer, and trusted it would always continue, as it was the sure basis of success in all enterprise of this kind. Mr. Mason then rose, and said it was only right he should remark that much of the credit arising out of the successful working of this mine was due to the periodical visits of their consulting engineer, Capt. H. Francis, of Llanidloes, and he wished the company to join him in drinking his health. This honour having been done him, Capt. Francis thanked Mr. Mason for his kind remarks, and the company for the cordial way in which his health had been drunk; and after referring to the pleasure and satisfaction it gave him to be there that day, he stated that he had again that morning inspected the underground workings, and found that the stopes were opening out in the most promising manner, a statement which was received with great applause. After the health of other gentlemen had been drunk and responded to the company separated, highly pleased with one of the most agreeable and pleasant days that could possibly be met with. A GUEST.

MONYDD GÖRDDU MINE.

SIR,—In last week's Journal you published an anonymous scribble signed "John Jones," with respect to the above mine. In reply, I would state—1. That the report to which he refers does not bring serious charges of incompetency against the late agent—2. That the importance of any defect in the slime pits is well known to the proprietors of the mine, and any damage done by the breaking away of any of the embankments would, indeed, be a "great catastrophe." Surely, therefore, I am warranted in communicating any information as to repairs on so important a subject to my employers.—3. No serious damages—nor, indeed, any damages—have lately, nor at any time since its commencement, been done to the embankment of the great reservoir now being constructed under my supervision, and to say so is a lie. The slime pits in question are only 20 yards square, with an average depth of 3 to 4 ft., and could be constructed by any ordinary labourer; but the great reservoir is a very different thing, as it will cover 12 acres, have an average depth of nearly 20 ft., and is being constructed across the bed of a violent mountain stream, subject to great floods, and is an engineering difficulty to be overcome only by an engineer's skill. Why, then, does John Jones wish to compare these two works? True, they are both equally necessary for the working of the mine, but there is no comparison in the difficulty and skill necessary for their construction. What your correspondent states as to farming and harvesting of crops, and my being a "farmer who has never handled a miners' tool, and has never earned a day's wage for work done at a mine either underground or at surface," is a gross libel; and John Jones knows full well he is wrong (whatever his malice and envy may prompt him to say) when he states that farming and foundry business are combined with respect to Monydd Gorddu, and I shall request of you, Mr. Editor, the real name of the writer of this letter, as it is necessary for my reputation and good name that a stop should be put to such vile false statements and insinuations. I intend to learn whether our English law does not provide protection against malicious libels of the description John Jones has given utterance to.

In refutation of his statement as to my capacity, I may state that my experience in mining extends over a period of 14 years of active work, and commenced with the working of one of Edward Crease's boring machines in 1863 at the Clogau Mines in North Wales, mentioned in the article on "Rock Boring Machinery, No. VIII.," by Mr. John Darlington, published in last week's Journal. The machine in question was constructed by my father, and embodied great improvements on Crease's original machine, and these improvements were designed by my father, who is also the inventor and patentee of the successful system of Mineral Dressing Machinery now so well known in all mining districts throughout this country and abroad. I worked at the Clogau Mines four years both underground and at surface, and since then, besides having spent a couple of years in an engineering works, I have been in different parts of Europe and America, not only superintending the erection of extensive plants of machinery of all descriptions for mining purposes, but have had the sole charge and management of large mining and smelting establishments such as John Jones wots not of, and I would ask whether one-half the agents who have charge of mines in this country, John Jones included, have had superior opportunities to those enumerated above for acquiring, not simply the mechanical action of using a pick or gad, which any booby can learn in six months, but an intimate, thorough, and comprehensive knowledge of mining? You, Mr. Editor, some years ago, in noticing an essay I wrote on "Mining Machinery," stated that "the writer evidently possesses a thorough knowledge of the subject," or words to that effect. With this I bid adieu to John Jones, and hope to have this little matter settled with him *in propria persona*. JAMES G. GREEN,

Cardiganshire, Oct. 2. Manager at Monydd Gorddu.

[The declaration of Mr. James G. Green contained in the above communication is certainly a complete and very satisfactory answer to the insinuations contained in the letter of John Jones in last week's Journal, to which insinuations, moreover, but little importance will be attached when we state that Mr. Green assures us that there is no such place as Tycam, and that no such person as John Jones can, therefore, be known there. It is an objectionable practice for writers to assume both names and addresses without indicating that they are so assumed].

SOUTH CONDURROW MINE.

SIR,—In reply to "C. W.," I beg to say that I am not a miner, and I do not understand its technical terms, but what I do know and can more fully appreciate is the receiving of dividends, and that the mine is pursuing the even tenor of its way in its upward course. The labour costs and bills are charged up as far as they possibly can be, and they have 2000*l.* carried forward to next account. This I think is tangible proof of its progress. It is an old saying that the proof of the pudding is in the eating. I hope "C. W." is not like the fox and the grapes. I have only to repeat what I said before, that the shares stood at 11 to 11½ when the mine was not in near so good a position as at present, whilst they are now scarcely 8.

Belfast, Oct. 3. J. A. F.

SOUTH CONDURROW MINE.

SIR.—As the writer of the letter signed "C. W." in last week's Journal has pretended to give information respecting this mine he should certainly have stated the whole truth, for he must know that he has wilfully perverted it, and, therefore, dares not put his name to his effusions. It is not in accordance with my views generally to write or say anything to attempt to influence the market value of the shares. I pay very little attention to this, as the mine must stand on its own merits. I have been under the impression that the shareholders generally were aware that the tin lode dips into Wheal Grenville sett below the 93 fm. level; if not, I agree with "C. W." that such is the case, and I hope the lode will prove as productive in Wheal Grenville as it has in South Condurrow. "C. W.," however, omitted to state that owing to the rapid underlie of the lode we have in South Condurrow over 200 fathoms of backs high and dry above the 93 fm. level to surface. The South Condurrow shareholders have also a large addition to their sett of some 250 fathoms on the line of the lodes directly to the west of Wheal Grenville, and which they can work to any depth; some of the ends in that mine are driven close up to their western boundary. We have also some 200 fathoms in length of unworked ground on the tin lode east. The South Condurrow property is not such an ephemeral thing as "C. W." seems anxious to make people believe. I do not pretend to say how good the lode may prove as it is extended on, but to my mind there appears to be ample scope for mining in the sett for the next 50 years or more. The insinuations as to half-a-dozen blowers in different places to keep life in the men to enable them to drag out the tin is pure fabrication on the part of "C. W." This is hardly worth a remark, as there is a Government Inspector of Mines in Cornwall, and one who is not at all slow in doing his duty. We have two fan machines in the mine; one to assist the ventilation in rising towards the Plantation shaft, and the other at work to assist in driving the 50 fm. level west towards the same shaft, and at neither of those places have we been raising any tin of value till this week, when the rise in the 70 fm. level has improved. Doubtless "C. W." does not, as he hints, approve of the mode of working; it appears to be past his comprehension that the mine is, and can be, worked at a profit. The past three years have been a most trying period for all concerned in tin mining. The metal has receded to a very low ebb, and the best mines in Cornwall have had a hard rub. We, however, been able to make good profits at South Condurrow, have not a single outstanding liability against the mine, but have a cash balance in hand in favour of the company of over 2000*l.*, and "C. W.'s" mines are in a better financial position than this I advise him to rest and be thankful. WILLIAM RICH

Redruth, Oct. 3.

WHEAL GRENVILLE.

SIR,—I see in last Saturday's Journal a letter from Mr. W. L. With your permission I will correct a few of the misstatements Mr. Leach has apparently designedly laid before the public. meeting was held in Cornwall, that those shareholders who h not the position of the mine and the value of the materials might see for themselves. Had Mr. Leach seen the pumps known anything about them and pitwork, he would never have to recall the letter he wrote, or advised the purchase of new work which would have cost 6*s.* or 6*s.* 6*d.* per cwt., and not good and serviceable as the pitwork bought and delivered at or 4*s.* 6*d.* per cwt., which is much better than any new now m

The thanks of the shareholders are due to the committee for ing the meeting on the mine. Every adventurer present expr his satisfaction and thanks to Capt. Hodge for the zeal and e he has shown in the heavy undertaking. Mr. Leach does not correctly when he says that Mr. Marshall was at once conde by several shareholders for asking questions of Capt. Hodge. a full hour every shareholder sat there listening to question question which did not for one moment enlighten shareholde profit them in the least, until their patience was exhausted b waste of time and the baiting of the manager. Mr. Marshall every shareholder present, could have got his information as shareholders do, by quietly asking Capt. Hodge before or afte meeting. Capt. Hodge does not require two or three days' not answer a reasonable question, but when a novice asks the va a lode never seen, a Leach can only answer it.

The only packing in the meeting to which Mr. Leach refers the packing of Mr. Marshall's proxies, silently obtained, unk to any individual present but himself, intended to take the mittee and the shareholders by surprise and carry his own m Messrs. Leach, Weston, and himself, as against Messrs. Gould Lane. How and under what pretence these proxies were obt we only know part, suffice it that such misrepresentations wi again succeed. An untruth will not again turn the balance last moment, as it did in South Condurrow. Already the comm have received several communications from parties who had proxies to Mr. Marshall expressing their regret that such ha used in a manner never intended; expressing at the same tim most perfect confidence in Capt. Hodge and the committee. this be a warning in future; before proxies are given kno object and intention as well as the trustworthiness of the indiv who wishes to represent you. Mr. Marshall condemned two t and moved an amendment against the committee:—1. That engine was not put where he would put it—to keep the wat of South Condurrow.—2. That the stamps erected by Capt. G Odgers, 20 years ago (who has long been dead), were not i right place. Can imbecility go further? W. H. R

London, Oct. 2.

WHEAL GRENVILLE.

SIR,—Will the writer in the West Briton of Sept. 24 kindly plain how Mr. Marshall could lately have become a large holder in this mine? He states that the committee brought from London proxies to the amount of 4557. I do not deny i the Cornish people hold, including the merchants who supp mine, 380 shares, I hold myself 350, making together 5287; the mine consists only of 5100 shares I feel very anxious to u this piece of complicated arithmetic. When he has done this have something more to say as to his remarks on the underc he alludes to, and may possibly open the eyes of the shareh from what source it springs. In the meantime, as tin is rising the mine looking well, and dividends in prospective, intendi vestors had better purchase before the shares reach 10*l.* each.

W. LEA

THE PRESENT OF CORNISH MINING AS A PROFITA SOURCE OF INVESTMENT.

SIR,—Any fool can make money in a rising market, whileit a clever man to do the like in a falling one. That this ha bitterly felt for the last two or three years not only in mini in every other kind of enterprise cannot for a moment be tioned, the recent increased demand for copper and tin by and Russia fully demonstrated by the late rise of 5*l.* per ton latter metal, and said by those best informed on the subject only a prelude to a much better price for this and other meta caused a general enquiry and consequent demand for all ki Cornish mining stock; the present is, therefore, must assure time for persons desirous of augmenting their resources t proper enquiries into the real state and prospects of the di mines, so as to make such a selection as shall not fail to p great source of profit in a short time. The writer well rem the reaction which followed the panic some 12 years since, shares in most of the leading mines rose 500 per cent. in months. One client of mine cleared a net profit of 1000*l.* months on an outlay of only 200*l.*, and I look forward to results from investments in mines now to be purchased minal figure per share. In making a selection due regard be had to the parties under whose management the operati conducted, business capabilities being equally as essential practical knowledge. A very good captain may make a general; this, unfortunately, is too often overlooked, the quence being that many a good property is sacrificed for judicious supervision. After such a prolonged depression, ing as it has been to a panic, it is not at all unlikely, judgi previous experience, to see a rise in the leading mining 50 per cent. or more within the next month or two. I congratulate those who have "borne the heat and burthe day" on the advent of brighter and better times, and to my out-of-the-county friends I would say the time has arr be "up and doing."—*Cornwall, Oct.* 3. CHAS. BA

MACHINERY FOR BORING ROCK.—The improved machi drilling and boring rock and other minerals invented by SHAW and CLARK, of Ovenden, near Halifax, consists of a and a piston rod with two pistons thereon. Steam, air, elastic fluid is introduced into the middle of the cylinder, an on one or other of the pistons, closes the exhaust, and fo steam or air from one piston to the other piston. This is by one or other of the pistons coming into contact with a sli which at the proper time closes the required port or ports, other port or ports open. The drill being fixed or attached end of the piston rod, is automatically fed into the rock a blow of the piston by means of a small cylinder fixed to the the above-named cylinder, and so arranged that steam or pass from the large or first-named cylinder to the small c and act upon suitably arranged catches and wheels; or we troduce the steam or air into the middle of the slide valve, the body or space between the two pistons for the purpose o

THERMOMETERS AND HYGROMETERS.—The object of the tion of Messrs. NEGRETTI and ZAMBRA, of Holborn Viaduct, protect the figures and degrees when marked on the capill itself from being injured or rubbed off the glass stem or c tube, and to this end the latter is enclosed within another cylinder in such a manner that the bulb of the instrument exposed outside the end of the covering tube, while the capillary or scale tube is hermetically enclosed within the tube. In carrying out the invention they find it necessary capillary tube should be so secured in the other that the perfectly air-tight, and to this end the two tubes are solder geneously together instead of forming the joint by means cement or other extraneous substance as heretofore has be

vention is applicable not only to simple or single thermo-
es, but also to hygrometers and other instruments in which
re than one thermometer is used.

Meetings of Public Companies.

PARYS MOUNTAIN MINES COMPANY.

n extraordinary meeting of shareholders was held at the offices
the company, St. Helen's-place, Bishopsgate-street, on Monday,
Mr. J. Y. WATSON, F.G.S., in the chair.

he notice calling the meeting was read by Mr. F. R. WILSON
secretary).

he CHAIRMAN said: Gentlemen, I can best explain to you the
ct of this meeting by reading the directors' report:—
meeting has been called by the directors owing to a petition having been
ented to wind up the company by a shareholder, who asserts that the Morfa-
eleme is a failure. The shareholder in question has 25 shares in Parys
ntain, purchased a short time ago at about 12s. per share.
best answer to this petition would be the complete success of Morfa-Du, and
oped that those shareholders or their friends who have not yet subscribed
ares in the proposed new company will at once do so.
ere are 300 shareholders in Parys Mountain, and a small subscription from
would suffice, but at present only 88 have agreed to take shares. These share-
lders and other persons have applied altogether for 5782 shares. If the other
reholders will now come forward and take a few shares each in the proposed
mpany, or induce their friends to do so, the purchase by such company can
ried out. Pursuant to a power contained in the contract, the time for the
ment of it by the new company has by consent been extended to Nov. 18 next.
the last board meeting the total liabilities of the company were under 2000*l.*,
the agent estimated the ores in course of preparation for sale at 2800*l.* The
mery has cost upwards of 10,000*l.*, but under a liquidation in such times
ld it might be sold for the value of old iron, and without any benefit to
shareholders.
directors propose, therefore, after laying this statement before you to send
to those shareholders not present. If the requisite number of persons
the Morfa-Du shares, and send in their applications within 10 days from
date the provisional committee for the formation of the new company will,
be in a position to carry out the purchase. If the shares are taken up
ey may attend both companies. The necessity of raising more money for the
ent of our own company must be manifest, but the shareholders generally,
ke the directors, will probably think that to wind-up voluntarily and ap-
a liquidator who might sell both properties as going concerns, and do his
t in the interests of all at a specified charge, would be a preferable course to
winding-up through the Court, if there is to be a winding-up at all; but
in that case the sacrifice will be serious.
the property of our company has had at least 50,000*l.* spent upon it, and the
ard would exceedingly regret that the shareholders should lose it when
ly with a little more money, seems near at hand, and in order to enable
provisional committee for the formation of the new company to carry out the
ase of Morfa-Du, the directors have each agreed to take 500 shares in that
ny.
he CHAIRMAN went on to say that he had that morning received
ice for 2000 shares against winding-up. He might also mention
an gentleman had also agreed to take 800 shares in Morfa-Du.
Mr. Mitchell, the agent, was present, and had told him that the
ores of copper at the present time were 2000 tons of ore, and
ated the halvans at 150.000 tons. When the company com
ced operations they sold 200 tons per month from the halvans,
per ton, but at present they could not sell it at a profit. He
ed the shareholders would come forward and make this com-
a success. There were three lodes rich above the 45 which
never been seen below it. Cross-cuts had been driven, and Capt.
ell believed that at the 90 cross-cut he was close upon the
ion of the three lodes seen above.
SHAREHOLDER asked whether, supposing they came upon the
the working would prove remunerative at the present price
pper?—The CHAIRMAN: Of course, if we make good disco-
it would put a fresh face upon it at once. We hope copper
rise in price. When we commenced working we made a good
. It is the low price of copper which has upset it.
SECRETARY said that if they could raise more of No. 1 ore
n they hoped to be able to do from the new lode) they could
a good profit; but at present they were raising principally
ore, which was not of such good quality. When they got
the open-cast they expected to get better ore.
SHAREHOLDER said he believed they had lately been raising
superior ore.—Capt. MITCHELL said they had.
SHAREHOLDER said he could bear testimony to having seen a
erable quantity of ore on the surface. Three weeks ago he
to the locality, and, having a small interest in the concern,
ted the mine, and he would take this opportunity of saying that
Mitchell, who was a stranger to him, received him in the most
ndly manner, and gave him every possible information.
ther he saw ore of a better quality than that on the table.
Mr. J. BARTLETT asked whether the specimens were from a
of ore, or whether the ground had got mixed?
Mr. MITCHELL said they might be from a fresh lode. The spe-
ens were taken from the forebreast, and no one could tell what
be within a yard of the place. They had got into good
ground.
Mr. BARTLETT said it was expected that they would have reached
lode from the 90 cross-cut before, but, judging from the plan,
not see how they could have expected it. He believed the
holders generally thought that the lode would have been inter-
ted before.—The CHAIRMAN: We all expected it.
SHAREHOLDER said they were under the impression that the
ross-cut would cut the lode under the perpendicular of the
ent.—Capt. MITCHELL said it would take some little time
to get under the open-cast.
Mr. J. BARTLETT: The lode has not been intersected.
Mr. MITCHELL said they had hit the branches, but at present
had not cut the lode. There was a large cross-course between
Parys Mine and the Mona Mine, and the plan showed the dis-
which was left to drive.
Mr. BARTLETT asked whether the underlie would be north or
?—Capt. MITCHELL: North. Some lodes are shifted more than
; if we had the ordinary throw we should have cut it before.
SHAREHOLDER said that, according to the section, there seemed
been some workings below the open-cast
Mr. MITCHELL said the lower part of the shaft had cut into a
and they had some copper from there. A winze was now sink-
upon it, and there was a bunch of ore at the bottom of the
. In the bottom of the 75 shaft there was copper.
SHAREHOLDER: Have you explored the bottom of the open-
?—Capt. MITCHELL said they had not at present.
The CHAIRMAN, in answer to a shareholder, said it was thought
the proposed issue of shares should be limited to 7000*l.* There
ready been 5782 shares applied for, and if they limited it to
only about 1200*l.* more would be wanted. More than 200
holders had not applied at all. If those 200 came forward and
only 10*l.* each the thing would be done.
SHAREHOLDER said that, although he was only a small holder,
uld take his quota (50 shares) if other gentlemen in the room
ld also subscribe.
The CHAIRMAN said a circular would be sent to all the share-
rs, and ten days would be given them in which to subscribe.
only one of the directors, and himself had taken 500 shares each,
doubt the other director would subscribe his quota also.
SHAREHOLDER suggested that they should not limit the amount
, but should make it up to 9000*l.*
Mr. H. JONES said he should be happy to take 50 shares.
Mr. BRABY said this was no doubt a crisis in the history of the
ny. The directors had done and were willing to do their
. What Mr. Bartlett had said about cutting one of the three
odes earlier was true. The directors all expected it would
been cut earlier; but certainly, in the nature of things, the lode
ust be far off, and Capt. Mitchell said they might cut it any
. It seemed preposterous that this company, after having ex-
ded this large amount of money in driving in unproductive
, should now throw up the property when there was every
ect of success. Therefore, he had done his part in subscribing
the shares, but there was a limit beyond which the directors
ould not go. He did not think the directors should have the entire
sponsibility of it, and it was proper that they should take a deci-
ve stand, and if the other shareholders would not take an interest
the property, the directors could scarcely be expected to be the
rsons to find the money. (Hear, hear.) There was not a more honestly conducted concern in England than this company. He heard a great deal about the various manœuvres in connection with mines, but he had now been on the board of this company for some time, and he had never seen any manœuvres in connection with the company. This was as straightforward a concern as could be well imagined; everything was worked as cheaply and economically as possible. The labour was very closely looked after by the agent, who was very well liked by the men, and they worked for him out of principle as well as for the sake of the money, and they got thoroughly good work out of everybody connected with the mine. He need not recapitulate the prospects of the mine, as they were well known. This might be called a meeting to some extent of misfortune, almost entirely because the terribly low price of copper had reduced the company to a condition which under ordinary circumstances they would not find themselves in, and he should be pleased if all those who had experienced the present unfortunate position of the mine would have the courage to remain by it, and share the good fortune. Having driven so far, it was simply a question whether they would make up their minds to find a little more money, and prove what they had been trying to prove, or whether they would let the property go.

A SHAREHOLDER: What is the present monthly balance against the mine?—Capt. MITCHELL: About 150*l.* per month.

A SHAREHOLDER: Does the offer which was made to take the bluestone still stand?—The CHAIRMAN: It still stands; if we could raise the amount wanted it would give us a large profit.

A SHAREHOLDER: Is there any immediate prospect of any rise in the price of copper?—The CHAIRMAN said he was in hopes that all metals would rise in price.

Mr. BARTLETT said he understood the petitioner to wind-up the company held 25 shares, at 12s. per share, and asked whether that gentleman had ever been a subscriber before?—The CHAIRMAN said he could not say.

A SHAREHOLDER said it seemed a strange thing that a petition to wind-up should have been presented under such circumstances.

The CHAIRMAN said there was actually a person waiting for the mine. He was told that if the company gave it up there was a party ready to take it immediately, and would get it at his own price.

Several SHAREHOLDERS expressed a hope that the remaining amount would be made up, so that the company would not have to relinquish possession of the mine.

The CHAIRMAN said it would be understood that all who took shares in ten days from this time would have a right to take at par those not now issued any time within 12 months. The calls would extend over 12 months.

Mr. BARTLETT enquired when the petition was to be heard?—The CHAIRMAN: On Nov. 3.

The Rev. Mr. B. KINGSFORD moved "That the report of the directors presented to this meeting be received and adopted."

Mr. C. H. JONES seconded the resolution, which was put and carried.

Mr. BARTLETT moved "That this meeting is of opinion that the winding-up of the company is not necessary, and is unadvisable."

The Rev. Mr. COOPER seconded the resolution, which was put and carried.

The Rev. Mr. COOPER moved "That the petition of Mr. Girling for winding-up through the Court should be strongly opposed." He remarked that if the Morfa-Du succeeded the petition would fall to the ground.

Mr. CROFTS seconded the resolution, which was put and carried.

The CHAIRMAN said it was understood that the shareholders who had not applied would have ten days allowed to send in their applications. He was happy to say that 240*l.* had been subscribed in the room, so there was only about 1000*l.* wanted.

The SECRETARY said the mode of payment would be very easy. There would be 5s. on application, 2s. 6d. on allotment, and the remainder in calls of 2s. 6d. each.

The CHAIRMAN said that Capt. Mitchell had not only taken his proper proportion, but had also applied for 50 more shares.

A vote of thanks to the Chairman and directors closed the proceedings.

SIERRA BUTTES GOLD MINING COMPANY.

The fifteenth ordinary general meeting of shareholders was held at the Cannon-street Hotel, on Thursday.

Mr. LEWIS R. PRICE, the Chairman, presiding.

Mr. J. SAUL (the secretary) read the notice calling the meeting. The report of the directors (which was published in last week's Journal) was taken as read.

The CHAIRMAN said the items in the accounts now submitted were in the same form as usual. The earnings for the six months were slightly in excess of the dividend, and the balance showed a small increase over the preceding six months, being 10,951*l.* 11s. 3d. The accounts were up to June 30, the period at which the stock of materials at the mine was at the lowest ebb, and during those six months the supplies for the winter were, as usual, being laid in, as they could not be hauled in winter. The stock at the mine at that date was 5584*l.* 14s. 10d., but in the previous six months it was nearly 10,000*l.*, and that might be counted as about the requisite sum for the winter supply. At the last meeting he stated that there would be between 500*l.* and 600*l.* to be paid more for the completion of the purchase of the Independence property and its mills; they would observe in the accounts that the amount charged was 3624*l.* 10s. 6d., and some of the materials from the mills were now being removed to the Sierra Buttes Mine, and in due course of time they would appear at the credit of that, and it was to be hoped that the residuum, after availing themselves of the materials on the mills, would be what was stated—about 1000*l.*, which would be the cost of the water supply, which now belonged entirely to the company. The reserve of 5000*l.* was still invested in Five per Cent. United States Funded Loan. Besides earning the dividend, they had paid 320*l.* out of revenue for work done upon the Independence Mine, about 400*l.* for repairs and water supply, and 270*l.* in the acquisition of fresh timber lands. The profit for the last half-year was 12,149*l.* 9s. 1d., whilst the present accounts showed a profit of 12,398*l.* 11s. 8d. On turning to the agent's report they would see that the yield was $6 9c. per ton, as against $6 27½ c. in the previous half-year. That the profits had been slightly in excess with a lower yield only showed how much could be achieved by care and economy, which were now practised in every branch. They would see that there were 1000 tons more ore milled during the present six months, and this had slightly increased the total yield, but not to the extent of the excess of 1000 tons, because as they increased the quantity which was milled they must necessarily utilise to some extent a lower class of ore, so that the 1000 tons of ore would not give a full representative value of 1000 tons of average ore. In taking a general view of the prospects of the mine, he thought they might entertain reasonable hope that a steady future might be looked for. One could not be too careful in venturing opinions as to the future of property exposed to such strange vicissitudes as mines. It was true they had now some little difficulties to contend with. The directors had pointed out in their report that the yield for July and August showed a further decline in the average yield of ore passed through the mills, and they had now been a long time without discovering any rich bunches which might tend to bring up the average yield, and he was sorry to say that the latest advices stated that in consequence of the extraordinary dry season the water supply was giving out. Every lake and every available source of water had been pressed into the company's service, and yet such had been the drought of this season that nothing had sufficed to maintain an adequate supply. This might affect the productiveness temporarily by keeping some of the stamps idle—in fact, in a late telegram Mr. Johns said that only 33 stamps were at work. But this did not affect the prospects of the mine as a mine, and if they looked at the fearful distress in India they could not but see how widely extended had been this abnormal state of the season. On Sept. 28 the directors received a telegram from Messrs. Cross and Co., in which they stated—"Fire last night in upper part of Sierra Buttes, now under control, damage repairable at small cost. The supply of water is now very low, only 52 stamps running." Since then Mr. Johns had sent a telegram to say that only 33 stamps were running. The directors had no reason to suppose that the damage done by the fire was anything of a very serious nature, and most probably the whole might be repaired and put in order at a trifling cost, as the directors had no direct news from Mr. Johns on the subject. He had fairly stated to the shareholders everything which the directors knew as to the shady side of the picture; what, then, were their hopes? They had a reserve fund of 5000*l.* expressly retained to equalise dividends and meet contingencies. The quantity of ore in sight in the mine was as large as they had ever had in sight before. He would not occupy their time by going through Mr. Johns' report, but a perusal of it must show how large was the number of stopes which were worked in the mines, and how great was the quantity of ore, and it did seem reasonable to expect that a better quality of ore might be reached in some of the workings, and Mr. Johns summed up his view by stating that "the stopes generally throughout the mine are looking as well, and holding out as well, as I have previously led you to expect is, I think, evident from the foregoing statement." Since that report the directors had received a letter from Mr. Johns, dated Sept. 1, an extract of which was appended to the directors' report. This referred to the 7th level, and he might remark with respect to the 7th level that they commenced it at the end of 1874, and they had been working it gradually, and defraying the cost out of revenue. Up to June 30 the amount it had cost was about 4000*l.*, and this 4000*l.* had been gradually paid out of revenue. Mr. Johns stated with respect to this level—"We have evidently cut the South Cliff vein, but have not yet got through it. The ore, as far as we have cut into it, gives us the prospect of its being worth $7 to $8 per ton." As this level was some 300 ft., or thereabouts, below the 6th level, it was important to have cut ore at all, as it showed that the vein went down. He would read a portion of a letter from Messrs. Cross and Co, dated Sept. 14 (Mr. Johns' letter was dated the 1st), which said:—"An important discovery has apparently been made in the No. 7 tunnel. It seems there is some doubt about whether the ledge we have been calling the Cliff is really that vein, or a ledge similar to the Overhanging in the levels above, running between the Ariel and the Cliff. It is difficult to say when we will get at the true lay of vein in this level, but probably we shall know more about it when the so-called Cliff drift connects with the Ariel, which seems likely to occur in a few days, should both ledges maintain their present course. It is satisfactory to know both veins are in what may be termed paying ore, accompanied by what may be called a general improvement in the Ariel." They would see that ore having been cut in the South Cliff ledge and in the Ariel, and the 7th level being 300 ft. below the 6th level, the quantity of ground or "backing" which the company had was very considerable, and if all turned out as it probably would, and if the floor of the bottom of the 6th level was ore, there was every reason to suppose it penetrated to the 7th level, and as there was a large "backing" of 300 ft., it gave, in his opinion, great importance to the 7th level. The sixth level had been continued as far as the boundary of the Independence Mine, and had been found by measurement to be 180 ft. below the lowest working of the mine. A rise was now being made to connect, and they might hope that when completed they would find ore there which, with their economical working, might be made to pay a good profit, though it would never bear the expense of hoisting to the mouth of the mine. At the latest date 55 ft. had been driven out of 180 ft., and they might, therefore, expect the connection to be made in about two months. He trusted they would see the importance of those two last features. They had been long working to find some ore, and always entertained the hope that ore would be found in the seventh level, but had hitherto been disappointed, as it had not been found before. It showed that the ore went down in depth, which was a very promising feature; and he hoped that a temporary diminution of yield would not lead them to undervalue the really good property which had now paid dividends to the amount of 180,000*l.* (Cheers.)

The Plumas Eureka Mine showed a very promising balance-sheet. The earnings for the six months were 24,487*l.* 8s. 2d., being an increase of 3308*l.* 2s. 1d. above the profits of the previous six months. The balance carried down of 14,937*l.* 17s. 9d. was not more than was required for working capital. During the half-year some timber land, and other ground needed for the expansion of the property, had been acquired at a cost of somewhat over 2000*l.*, which had been defrayed out of revenue, besides earning the dividend. They would observe that the balance of the 10,000*l.* loan for the purchase of the Mammoth property was now reduced to 4000*l.*; 3000*l.* had been paid off in the six months embraced in the accounts now presented, and the other 4000*l.* would be paid in March, so before they met again the whole of the debt would be swept away, and he thought they might consider they had obtained the Mammoth property very cheaply indeed. In speaking of this property it was somewhat difficult to make clear the different positions of the ore, and the sources from which the ore was derived. They had really three distinct mines to deal with—indeed, there would be four mines, but they might consider the Plumas Eureka proper and the Mammoth formed one mine, as the Mammoth underlaid it, and the shoots from the Plumas Eureka came into the Mammoth. This had been considered as one mine in the plan which, in accordance with the wishes of the shareholders, had been issued. No ore had been taken from anywhere else but the Plumas Eureka and the Mammoth, and that was the mine he should have to deal with. They would observe that the number of tons which had been milled was 20,266, or within a trifle the same as the last six months, and the yield was $11 18½ c., as against $11 94 c. previously, which was a difference of 74½ c., or 3s. per ton, but the total cost of mining and milling was reduced by 98½ c., or 4s. per ton, which more than compensated for the difference in the yield, and he must call attention to the fact that this small falling off in the quality of the ore was not at all attributable to the mine in any way becoming poorer, but that it had been deemed desirable to mill a fair proportion of the lower grade ores, and under the economies perfected by Mr. Johns they could do this, and still maintain the same amount of profit. The middle level had been driven 255 ft., but at the end it had split up and given out; but the 255 feet was mostly through fair ore, and some of it very good indeed. The Catin level had been driven through 187 ft. of good ore; the Mammoth tunnel had run through a shute of ore 776 feet long, and the small vein which diverged had now been found to be 6 feet wide, with $8 ore; in Messrs. Cross's later report that vein was mentioned as having been cut, and the directors had since heard that it had widened to 10 feet of first-class ore. On Sept. 6 last Mr. Johns wrote—"The new shoot in Mammoth footwall level is a grand one, it is like the North Clamper was when we had it rich in the shaft. The shaft in the Mammoth Tunnel, which they would remember was sunk to decide whether the ore went down in depth, still continued to be on good ore, and proved satisfactory that the vein was continuous in depth." The Lower Mammoth Tunnel, which to avoid confusion Mr. Johns had named the Mohawk, was in 1070 ft. at the time of the report, and the shareholders would observe that since that date the ore had actually been cut in it, but too little work had been done to know much about it, or to ascertain its nature and extent. All this, as far as the Eureka Mine was concerned, was very encouraging, and spoke for itself too favourably to require any comment from him. The Seventy-Six was another of the mines, the veins of which were quite distinct from the Eureka. At present the vein, after having driven through good pay ore, now of which had been worked or utilised, was now full of sulphurets, with but little free gold. Assays had not yet been made to test its quality, and too little work had been done to enable any decided opinion as to its quantity or quality to be formed, but a few months would suffice to prove what they were, and he saw no reason why they should not discover valuable deposits. (Cheers.) The Rough and Ready was situated in a rugged and almost inaccessible part of the ground, so much so that at one time it was thought they would get no good out of it. In fact, at their meeting in April, 1874, he stated to the shareholders that, considering the work to be done on the Eureka proper and the Seventy-Six, they might not live long enough to lay it under contribution. But Mr. Johns had made a trail to it, and in a letter, dated Sept. 4, stated that he had commenced exploring work, and after driving in about 30 feet had discovered a vein 18 inches wide of $12 ore, a well-defined and well-marked vein. This looked exceedingly well for its development into a good mine also. (Hear, hear.) The latest news the directors had was the usual telegram, which was addressed to them for the meeting; it was as follows: Sierra Buttes Mine, No. 7 level large ledge is worth $5 to $6 per ton, no other change, only 33 stamps running, clean-up amounts to $28,000. Plumas Eureka Mine continues looking well generally, clean-up amounts to $38,000, base $3000 additional, total $41,000. After some consultation a site had been agreed upon for a new mill of 40 stamps, and already work was being done in the way of levelling and cutting out a ditch or flume to supply water. Some portion of this work was rather hard, as it required blasting. The mill, as he had said, would have 40 stamps, and it was to be hoped that the supply of water would continue throughout the year. Of course the supply from this mill would enable the directors to increase the profits very largely. It was no use to go into further details. Sufficient had been said to show the extremely valuable nature of the property, and the promise for the future it held out on all sides. I shall have to propose a dividend of 2s. per share on the old Sierra Buttes shares, and 3s. per share on the Plumas Eureka—a total profit of nearly 34,000*l.* to be divided. In receiving these dividends, the result of six months hard work, I trust you will not forget that to the intelligence and indefatigable care and economy of the superintendent of our mines, Mr. Johns, ably supported by his underground managers, Mr. Hoskins at the Eureka, and Mr. James at the Sierra Buttes, you are mainly indebted for these results, and was sure they would be gratified by this recognition of their conscientious services. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.—Mr. J. S. NEALL seconded the resolution.

Mr. TENDRON said he should like a little more information regarding the amount of damage done by the fire. With regard to the large body of $5 and $6 ore in the Sierra Buttes was it a fresh body of ore, or the same body of ore which previously showed $7 and $8 ore?

The CHAIRMAN said that as far as they knew it was the same body which was first reported as $7 or $8 ore, but the vein had widened, and it not unfrequently happened in the Sierra Buttes, and when the vein bulged the ore became slightly poorer than when it was more concentrated. They had the superintendent's report of Sept. 8, and it was there stated that No. 7 had been run 15 ft. that week, on what was thought to be the South Cliff ledge, but it was afterwards thought that the ledge was running too much south to be the South Cliff ledge, and if it continued on its present course for a few days more it would run into the Ariel. The ore passed through would pay from $5 to $7 per ton, and was the full size of the drift. The directors had received no precise details about the fire, but with a person in charge like Mr. Johns he was confident that if the fire had done any damage of importance he would not have failed to communicate with the directors.

Mr. TENDRON asked whether the directors saw their way to a profit out of $5 and $6 ore?—The CHAIRMAN: Certainly, and I think it will improve. Absolutely anything beyond $3·50 ore is pay ore; putting $4 is extreme.

A SHAREHOLDER asked for some information regarding the arrangement made some years ago, by which, on a certain number of dividends of 2s. each being paid, the Plumas Eureka was to be incorporated in the old Sierra Buttes. Was it absolutely necessary to pay the quarterly dividend, as well as earn it, before the incorporation took place?—The CHAIRMAN said the dividend was to be earned, but not necessarily paid?

Mr. CONYBEARE said he was very pleased indeed to see the recognition of the services of Mr. Johns, to whom the shareholders were so greatly indebted for the results which had been obtained. He thought some further information should be given to the shareholders about the terms on which the two mines would amalgamate.

Mr. TENDRON deprecated any discussion on the subject. It was a matter of arrangement and not of sentiment. There was only one board of directors, and the honourable and straightforward way in which they had hitherto conducted the company was a guarantee that when the propor time arrived the proper thing would be done with regard to the incorporation. (Hear, hear.)

Mr. WRIGHT said he distinctly remembered the resolution which was passed on that point at the instance of Mr. Petherick, and if any conflict of interest arose upon the matter it must be decided according to the legal interpretation of the document. He was very much gratified to learn what the Chairman had said with regard to the diminished cost of production through the exertions of Mr. Johns, who had effected altogether a saving of 10,750*l.* in the half-year. That was a very large amount, and deserved some more substantial recognition than a mere vote of thanks. (Hear, hear.)

The CHAIRMAN said the resolution embodying the arrangement referred to for the incorporation of the old Sierra Buttes and the Plumas Eureka had been printed on the shares and scrip, so that every shareholder had in his possession the exact wording of the resolution. (Hear, hear.)

A SHAREHOLDER suggested that a somewhat larger dividend should be paid.

Mr. BOULTON thought the directors were pursuing a wise policy in limiting the dividend to the present amount.

The CHAIRMAN, referring to the suggestion regarding the extra dividend, said the directors were anxious to give the shareholders as much as possible, but they had 4000*l.* still to pay off. The $41,000 which now came into the clear account was not the largest they had had, as they had had one of $45,000. Beyond this

they were making a tolerably heavy outlay in preparing the new mill, which was to give results afterwards. (Hear, hear.)

The SHAREHOLDER said he was perfectly satisfied with the reply. He had merely thrown out the suggestion for the consideration of the shareholders.

The report was then adopted.

On the motion of the CHAIRMAN, seconded by Mr. RESTRON, a dividend of 2s. per share was declared on the Sierra Buttes shares, payable on Friday, the 12th inst.

On the motion of the CHAIRMAN, seconded by Mr. CONYBEARE, a dividend of 3s. per share was then declared on the Plumas Eureka shares, payable on Friday, the 12th inst.

Mr. WRIGHT moved that the thanks of the shareholders be given to the Chairman, directors, and Mr. Johns for their able management of the affairs of the company, and the directors be requested to make some suitable acknowledgment to Mr. Johns, so that the service he had rendered should not pass unrecognised.

Mr. CONYBEARE seconded the resolution, which was put and carried.

The CHAIRMAN said that Mr. John's services had been very eminent, and had been rendered cheerfully, and he was sure Mr. Johns would be delighted to hear this expression of the shareholders' views.

A cordial vote of thanks was then passed to the Chairman for his able conduct in the chair, and the meeting then terminated.

LONDON AND CALIFORNIA MINING COMPANY.

The twelfth ordinary general meeting of shareholders was held at the Cannon-street Hotel. on Thureday,

Mr. LEWIS R. PRICE (the Chairman) presiding.

Mr. J. SAUL (the secretary) read the notice calling the meeting, and the directors' report was taken as read.

The CHAIRMAN said the accounts for the six months ended on June 30 last showed no great variation from those of the previous half-year. The work in the mine had been pushed a little more vigorously, and consequently the expenses had exceeded last half-year by 1500*l*. The balance in the hands of the directors was 21,175*l*. 11s. 8d., as against 19,746*l*. 13s. 6d. in the previous half-year. The stock of materials at the mine was very small. There continued invested in United States Funded Loan 10,928*l*. 18s. 9d., and 5710*l*. 4s. 1d. was on deposit; and 2000*l*., which was on the road at the time the report was drawn up, had since been received. The directors had some idea of removing the 10,928*l*. 18s. 9d. from the United States Funded Loan, and invest it in Consols. It was a matter which was under consideration. It was satisfactory to know that the state of the mine warranted the good opinion formed of it by Mr. Johns about the middle of August, on his visit to the Amador. The shareholders might remember that at the last meeting a telegram had been received from Mr. Johns, which stated that there were now some years ore in sight, and that an explanation subsequently asked by the directors showed that the wording of the telegram was erroneous, and that only one year's ore was in sight. From the work since done, however, they would find that the original statement though sent in mistake might have stood, for after having worked for six months and taken out ore to the value of nearly 10,000*l*. there were still some 10,000 or 12,000 tons of ore in sight—sufficient to supply 10 stamps of the mill for two years to come, and if the yield should continue at the same average as that shown by the statements now in their hands it was calculated to give a gross sum of 40,000*l*.; that was from ore in sight. The productiveness of this part of the mine had thus exceeded what the directors ventured to hope it would be at the time of the last meeting. If they would look at page 6 of the superintendent's report on the original Amador Mine they would see the following with regard to the stopes from which ore was being taken. "We have every reason to believe that the ore extends north to the stope near the boundary, thus showing a body of ore along the bottom of No. 2 level over 300 ft. long, and some of it being worth 830 per ton. At the present rate of exhaustion it will probably take two years to extract the ore now in sight." And further on he said—"I am pleased to say in this connection that I regard the prospects for the half-year just entered upon as quite encouraging. The stopes are looking well, and the developments of the past six months lead us to believe that the mine will yield a small profit for at least two years to come." This was all very fair, and all that could be said about that part of the mine. They might or might not develope something very good in this direction, but the deposits had been so broken, and the whole formation was so eccentric, that no conclusions could be drawn from the deposits discovered as to what the future might be. All that could be said was that they had found ore of a paying quality to exist in the mine, disconnected and thrown out of its place by the character of the vein, and so giving no very accurate clue to the direction in which further depositis of ore should be sought. But if it had thus been disconnected from the vein it must have existed in it, and was, therefore, so far a favourable indication, and demanded further investigation. (Hear, hear.) He would now leave this portion of the mine and turn to the east vein, on which their hopes mainly depended. Two works were being simultaneously prosecuted for its exploration—one a shaft sunk on the vein itself, and the other a drift or level to communicate with the shaft when the latter should be deep enough. He might mention that in Mr. Johns' report in August, which they had seen, 70 ft. remained to be run to complete the connection. The latest mining report from the superintendent gave 355 ft. as the depth reached on Sept. 8. He would now refer to the various items of news gathered from the reports, and try to obtain a clear view of what the hopes were to which general opinion pointed. The class of rock in which gold might be found varied in different localities, but if they had a property situated on a vein where valuable mines had been discovered they might be assured that their mine would only become valuable when a similar rock and the same geological features presented themselves. It was most important for them all to remember this, because Mr. Johns had stated in his report that the characteristics of the rich portions of the mother vein in Amador county were 1 ft. wide of coal-black slate, and that those walls should be well defined followed as a necessary consequence wherever the vein was undisturbed. Mr. Johns added: "All these are favourable indications for finding a profitable vein." In the workings hitherto in this mine, even where gold had been found, the formation had been so eccentric and irregular as to baffle all calculation. Gold was discovered where least expected, and gave out where it looked most promising, and it seemed almost a hopeless task to search amidst this chaotic confusion of rocks for any permanent auriferous vein. The east shaft itself was by no means exempt from these disturbing influences. They had only to glance at page 5 of the agent's report to see the work done in this shaft to June 30, and how repeatedly hopes were excited only to be disappointed next week. The agent concluded by saying, "at the present time there is no quartz in the bottom of the shaft. Shall start a drift south from this shaft in July, the prospect for which are quite promising, and as soon as it is far enough not to interfere with the sinking, I think it advisable to recommence sinking. It was not, indeed, till about the time of Mr. John's visit, in the middle of August, that the favourable indications so long sought for were found, and Mr. Johns pointed out that there was strong evidence that the east vein was the principal vein of the belt, and he added "in fact everything we have ever had in the original Amador has gone on rapidly towards the east, indicating there was a stronger and more permanent vein in that direction" At the time of Mr. Johns's visit there was no ore at the bottom of the shaft, but the indications were so good that he determined at once that it was desirable to sink further on this shaft, and penetrate deeper by means of this shaft, and before he had been able to finish his report news was received from the superintendent of the fact that a small vein had been discovered of 1 ft. wide and $10 ore. Since then, to show how true his surmises were, we have received the superintendent's report from the mine of Sept. 1, and of the 8th (which was the last that had been received); and on the 1st the superintendent said, "East Shaft; This shaft I am pleased to say has improved during the week very much, the vein being about 4 ft. wide, and will probably be about $7 per ton. Owing to the vein being so large we are not making very good progress." And writing later on, Sept. 8, he said: "East Shaft: This shaft is looking better than at any previous time; the vein is over 4 ft. wide, and there is gold all through it." He hoped they had been able to gather from what he had said the exact position of the mine and its prospects. It was very important that the shareholders should bear in mind that Mr. Johns, without seeing any ore at all, and without any vein, should from the geological indications direct that further sinking in the shaft should be done, for he felt sure that ore would be discovered there, and only a few days later a small vein 1 ft. wide crept in, which was now upwards of 4 ft., showing gold throughout. There was a suggestion made by Mr. Johns that the work to be done in the east shaft should be provided for out of the profits of the mine, and certainly such a course and such a suggestion, coming from such a source, merited every consideration. But if anything came to check their progress they might be stopped altogether at a critical moment—as, indeed, the secretary reminded him they were at the present time for want of water. It might also have seemed to some gentlemen that they ought to put in a large force of men and work out two years' supply for 10 stamps in one year, thus giving a larger amount of yield; but the directors had ascertained that this was impossible, as the number of stopes was small, and were not capable of yielding more than they had been yielding, and, therefore, they must take two years to exhaust that portion of the mine. All that he could say, therefore, was to repeat that the board earnestly pressed upon the shareholders the imperative necessity of having the money still in their hands to meet any expenditure that might be needful, and give liberal development to this promising mine. He could not help thinking that when this was viewed in connection with the opinion of such an experienced man as Mr. Johns, who had examined other mines on the mother lode, and ascertained precisely the nature of the geological formation in which this large and enormously productive deposits of ore had been discovered, that it was very encouraging to the shareholders to find that he so positively recommended this work on the east shaft. He thought this was the first time they had obtained any clear indication of a probable permanent vein. If they were pleased to leave the money in the hands of the directors for another six months he hoped at the end of that time to show that the mine had been developed to such an extent that there was really a prospect of its becoming a remunerative property. (Cheers.) The latest telegram, dated Oct. 2, was as follows:—"Original Amador Mine, nothing in the mill, owing to the absence of water, now much required." The mill referred to was the mill of 40 stamps, and they only employed 10 stamps, but this was not of much importance, as when the rain came they could work up the supply of ore very quickly. There was no doubt the mine promised better than it had hitherto done, and he hoped the shareholders would so consider it. (Cheers.) In conclusion, the Chairman moved the adoption of the report and accounts.

Mr. CHARLES WRIGHT seconded the resolution.

The CHAIRMAN, in answer to a SHAREHOLDER, said they could not get the ore out quicker at present, as there was not a sufficient number of stopes.

Mr. BOULTON said he hoped the directors would well consider before they bought Consols at the present high figure. He fully endorsed the views of the board with regard to the present hopeful condition of the mine, and the shareholders could not do better than leave the money in the hands of the board to utilise it in the best way they could, and in the hope that it would come back to them afterwards a hundredfold. (Cheers.)

The report was then adopted.

The retiring directors—Mr. Howie and Mr. Neall—were then re-elected.

Mr. TENDRON said that supposing the vein went the way Mr. Johns anticipated they would have a permanent vein of a moderate size, and did the directors see their way to that yielding a fair return on the 330,000*l*.? (A laugh.)—The CHAIRMAN said it was difficult to answer. The adjoining Keystone Mine and the Heywood Amador, where the indications were the same, had given large returns, but it was impossible to say what they had in depth in this mine. There was no reason they should not, but he could not predict.

Mr. TENDRON considered the answer satisfactory. (Hear, hear.)

A vote of thanks to the Chairman and directors closed the proceedings.

NEWPORT ABERCARN BLACK VEIN STEAM COAL COMPANY.

The adjourned meeting of shareholders was held at the offices of the company, St. Mary Axe, on Wednesday,

The Rev. Mr. WARD in the chair.

The notice calling the meeting was read by Mr. Arthur R. Mollett, the secretary.

The CHAIRMAN said they were all aware that since the last meeting a very important, and he trusted valuable, step had been taken in the communication established between the two pits, thus facilitating the working, which he hoped would soon commence. On Aug. 3 the meeting had before it the report of the engineer and manager, and also the company's balance-sheet to March 31, 1877. Messrs. Raikes and Bowden, two of the directors that retired from the board, had to be proposed for re-election, and the shareholders were requested to fix the remuneration of the auditors. Those were the objects now before the meeting, and it would now be his duty to propose formally that the report referred to, and the other business, be now carried out, but before that was put every gentleman would have the opportunity of expressing himself as he might think fit and proper.

Mr. T. QUINLAN said that as the shareholder who proposed the adjournment of the last meeting it would be just as well to remind the shareholders of the reason of the adjournment. Mr. Lishman had asked certain questions with respect to the cost of machinery and works, and he himself had asked certain questions with respect to the position of the company and its future prospects, and he proposed the adjournment of the meeting, as it was stated that in the absence of the managing director satisfactory replies could not be given. That was the principal object they had in view.

Mr. THOS. BEYNON said he regretted very much he was not present at the last meeting. He had arranged to be present at the date originally fixed, but the date had been altered, and he was unable to attend on the altered date. The questions asked had been answered in principle at every meeting of shareholders. In 1875, when they had their meeting, the question was then asked as to the cost of machinery, and an analysis of cost was made up to March 31, 1875, showing a total of 29,120*l*. spent under that head. That was 2½ years ago, since that time they had spent about 10,000*l*. under that head, and the grand total standing on March 31, 1877, was 39,540*l*. It was easy to say the expenditure was excessive. It was, undoubtedly, the duty of the shareholders to watch the concern, and criticise the conduct of the board; but, on the other hand, it was fair to the board when any shareholder pointed out any expenditure under any head as being excessive it was the duty of such shareholder to point out the mode and manner in which that expense could be considerably lessened. It was easy to condemn a policy, but a person who condemned a policy should present some alternative policy, and show that if such policy were adopted it would be better. This company had been at work for four years and a half, and in active progress night and day; there had been regular meetings, and in order to give the shareholders full information interim meetings had been held, and at those meetings the questions had been fully and satisfactorily answered. He believed very few shareholders had any idea of the magnitude and importance of this undertaking. In addition to the erection of the machinery they had two pits sunk 360 yards, and not only had they been sunk but had been walled throughout, and for a distance of 100 or 150 yards had been coffered from the surface for the purpose of keeping back the formidable body of water that was met with in the Pennant rock, and which he might mention had been effectually kept back. After operations were commenced they were told in Wales that the body of water they would have to contend with would be so enormous that they would not be able to cope with it, but the actual fact was that they had a Cornish engine capable of doing 10 strokes per minute, but in consequence of the admirable way in which the pits were sunk the engine kept the colliery perfectly dry, doing only 1½ stroke per minute. They had sunk No. 3 pit 197 yards. At the bottom of No. 1 pit they had an arching not surpassed by any colliery in the world, and they would be able to raise from 1000 to 1200 tons per day from No. 1 pit alone. When anything was required—say, an engine for example—Mr. Thomas, the engineer, made specifications, and about eight or ten of the best makers were selected, the specifications were submitted to them, and the lowest invariably accepted. There was not a piece of machinery but what had been done by contract, but not a single piece of machinery, nor anything else, had been placed upon the mine but what was absolutely required. In going through the Pennant rock he had two of the most arduous and anxious years he had ever experienced; there was a large quantity of water to contend with, and very heavy sinking to do. Contractor after contractor failed, one absconded, one disappeared, and for some time the company had to do it by daywork, until they got the present contractors. He mentioned this to show how easy it was for the money to be spent. He went on to show that, considering the large amount of work which had been done, and the difficulties which had been met with, the expenditure could not well have been less. Everyone connected with the colliery had been animated with but one desire—to get it completed at the lowest possible expense consistent with efficiency. As regarded giving all the details as to the cost of coal, his idea was that it would be impolitic, but the directors were working to get it at the smallest possible cost, and the shipping port was so near that they could compete with any colliery in the district. Any *bona fide* shareholder who wished to ascertain all the details relative to the cost of the coal could have the information supplied to him privately, but such information given publicly might operate to the prejudice of the mine. The next matter touched upon at the last meeting was with regard to his own firm selling the coal. There seemed to be an impression on the shareholders' minds that the colliery was really at work; but, as a matter of fact, the colliery was not properly at work, and what coal had come to bank had come out of the headings, as they connected the colliery with the other shafts. They were liable to be stopped at any time by the Inspector of Mines; and, as a matter of fact, the Inspector did so stop them, and they could not go on until the surface works were completed. Therefore the colliery was not completed, and they had not yet been able to work the coal in a proper manner. It would, therefore, be impossible to enter into a contract for the sale of coal which was coming up only at the rate of 30 or 40 tons per day. Therefore, the best thing possible was done under the circumstances—Messrs. Beynon sent their wagons (the company having none) and collected the coal, and it was sent there until a market was found. As regarded the commission which his firm received on the small coal, he would remind the shareholders that there was a great deal of trouble in connection with it, and the remuneration should be looked upon in connection with the amount of trouble which was taken, and not with regard to the cost of the coal. However, he might add that as soon as the colliery was completed, and in proper working order, his firm had no intention of charging any commission upon the sale of small coal. (Hear, hear.) As regarded the commission on the sale of large coal, there seemed to be an impression in some quarters that his firm was getting too much, whereas he thought that his firm was not getting enough, but, at any rate, whether the commission was too large or too small, he did not think a public meeting was the place to discuss it. If a committee came with full power to treat with him he was willing to meet them, and not only to modify the contract but also to discuss the basis upon which he would abandon the contract altogether and put it in the hands of the company. As regarded being a director, he had no ambition to be a director. As the colliery was to a great extent a child of his own he certainly did wish to see it completed and in full work. His time would not be up till the meeting in June, and he did not feel it his duty to resign till then, inasmuch as a large number of shareholders had confidence in him and wished him to remain on the board. He had given a great deal of time and attention to the colliery. The board had worked harmoniously, and when the board asked to be re-elected for four years they did it in the interest of the shareholders at large. The directors had subscribed to the debentures to the extent of 15,000*l*., and having done that they thought they were the proper persons to watch with jealous care the expenditure of so large a sum of money. If they appointed another managing director they must appoint a man who knew the people and their feelings and instincts, as he might say that a kindly feeling had sprung up between himself and the men, and in the case of any misunderstanding arising he believed he could smooth it over better than any stranger. It was impossible to separate the interests of the directors from the shareholders, or that of the shareholdess from the agents, and in order to sell the coal the object should be for the directors, shareholders, and agents to work harmoniously together. Any gentleman who was tempted to sow discord between the agents and the directors or shareholders was an enemy to the company. The utmost cordiality should exist between all parties, as their interests were one. He went on to refer to some minor points in connection with the company, and said he hoped by the beginning of next year the colliery would be completed for working.

Mr. LISHMAN said he still considered the amount put down for engines excessive, but after some discussion it was shown that the case given by Mr. Lishman was not analogous.

Mr. THOMAS, engineer, pointed out that one great cause of the delay and expense was the hard Pennant rock which they had to drive through. He pointed out that the original estimate had been exceeded, inasmuch as they had met with difficulties in driving which no one could possibly have foreseen. Considering the amount of work done, no one could fairly consider the expense excessive.

Mr. T. QUINLAN wanted to know why the mining surveyors were so far out in their estimate as to say that certain work would cost half what it did cost.—Mr. BENYON said the question of time alone was most important in showing the error, as the company had to bear 28 months' expenses, which they were not expect would only be 12.

Mr. THOMAS pointed out that the obstacles they had met with had greatly increased the expense, and caused the loss of a large amount of time.

A SHAREHOLDER said they were indebted to Mr. Beynon for relinquishing the contract with regard to the small coal. The shareholders were naturally curious at the last meeting to receive some explanation of why twice the amount had expended which was expected. There was no doubt they had a valuable property, and that the estimate originally formed of its value was being verified.

A SHAREHOLDER, who said he held between 300 and 400 shares, regretted that he also had been struck with the large expenditure, so that in all future the shareholders were handicapped with the heavy extra charge. It was regretting the past: the question was what was best to be done in the The shareholders would, no doubt, accept Mr. Beynon's timely and liberal He hoped a committee of three or four shareholders would be appointed Mr. Beynon with regard to the other part of the contract. For his own saw no immediate prospect of any improvement in the coal trade, and the company might go on three or four years without making any profit.

Mr. WILSON said that after what had been said by Mr. Beynon regarding small coal he had no further remarks to make on the subject.

The CHAIRMAN, after some further unimportant conversation, formally the adoption of the directors' and other reports and the balance-sheet.—CORY seconded the resolution, which was put and carried.

It was decided not to proceed with the motion of which notice had been appointing the present directors for four years, in consequence of their subscribed 15,000*l*. to the debentures, in addition to their stake in the capital.

Messrs. Raikes and Bowden, the retiring directors, were re-elected unanimously.

Mr. Bagshaw, the auditor, was then re-elected.

Mr. QUINLAN said he had paid a visit to the works since the last meeting, result of that visit was this: he found that the colliery did exist, but he not have been surprised to find that it did not. (Laughter). Further found that everything with regard to the colliery as represented could be borne out upon inspection. There could be no mistake at all as to the quality the machinery and the work done. The machinery was thoroughly well and the proof was generally in the finish. The same was the case with the houses for the men; and the pits (which he did not go down), as far could judge from surface, were all that could be desired. He subsequently a neighbouring colliery, and he compared the Newport Abercarn with that ing to the conclusion that so far as workmanship was concerned there was left to be desired. Whether too much money was paid for it or not was affair, of which he was not a competent judge. He further inquired as Beynon's commission, because he thought it a very high one; but he that 6d. per ton was fair to all parties. Hence he came to the conclusion was not desirable to part with Mr. Beynon.

The CHAIRMAN, in reference to a remark that had fallen from one of the holders, said that the past two years had been a period of great anxiety directors, and personally he had not known such time during his prolonged life. He was aware of the poverty of his own service, but he his ungrudging testimony to the extreme importance of the services of leagues. If the past two years had not been a period of anxiety to him, did not know what anxiety was.

Mr. PROUD moved a cordial vote of thanks to the Chairman and his colleagues. This was seconded, and agreed to unanimously.

Mr CORY said that a shareholder had remarked that the shares of this company were unmarketable. Well, they were selling at Cardiff for 4½, and the broker him that there was no colliery property he had on his list that was at all value to the Newport Abercarn.—The meeting then closed.

DERWENT LEAD MINING AND SMELTING COMPANY.

The ordinary general meeting of shareholders was held at the offices of the company, Austinfriars, on Thursday,

Mr. E. W. WINGROVE in the chair.

Mr. J. H. A. SMITH (the secretary) read the notice convening the meeting, and the report and accounts were taken as read.

1.—In presenting you with their first report your directors have pleasure in repeating the words of Mr. Morpeth, their manager, that "since the company commenced operations the mine has very materially improved," the average of the productive ground having increased over 60 per cent. in the past 12 months.

2.—You will observe by the accounts that for the year ending June last 1000 sold realised 4416*l*., and in the past three months the sales have amounted to making a total of 6140*l*.; in addition to this a considerable quantity of ore has been opened beyond what has been worked, which will continue to the returns. When the 93, west of Jefferies' shaft, and the 93, east of West are communicated there will be at this point alone a further piece of 1500 fms. of good ore ground laid open for stoping. The cutting of the rich (2 tons per fathom) in the little limestone is an important discovery lode is whole all through the old mine as well as in the undeveloped ground sill. Levels are being driven east and west on this lode, and after a little ditional resources for stoping will be available. Should the north lode be in the great limestone at the 95, at Jefferies' shaft (of which there is great ation), it will materially add to the value of the property, as this stratum touched on the north vein for the whole length of the sett. There is also cut being driven at the 40 to the middle vein, which it is also hoped will something good.

3.—Including the expense of these cross-cuts, which at present are dead other costs of a temporary nature, the returns for the past three months have within 400*l*. of the total expenditure on the mine.

4.—The attention of your directors has lately been given to the subject of boring machines, some of which are represented as capable of driving and through the ground in about one-third of the time, and at a saving of 25 in cost, compared with the usual mode of hand labour; your directors fully investigating the merits of some of these machines, and hope to see to the adoption of one of them, the practical success of which would be of importance in bringing this property into an early and extensively profit

5.—Your directors have thought it wise hitherto to defer the purchase freehold of the royalties till the mine had reached at least a self-supporting tion; the matter will now receive their early consideration, as they believe with the manager that the mine will do well, and prove itself to be and permanent concern.

6.—The accounts have been audited by Messrs. Brandt, Stansfield, and accountants, Bush lane, London, whom the directors appointed auditors, offer themselves for re-election at this meeting.

The CHAIRMAN moved the adoption of the report and and said that his remarks on the present occasion would be brief, inasmuch as the report of the agent, Mr. Morpeth, had so very exhaustively with all that had been done in the mine the past 12 months, and in a measure as to what the prospects the company were. And viewed in the light that the policy board had been to develope and open out this mine in such that it would become a permanent and lasting source of profit stead of uncertain in its results, he thought the shareholders consider that what had been done was satisfactory, and that come, on the whole, was such as to encourage them. (Hear, The accounts, which were made up to the end of July, showed the receipts from the sales of lead during the past twelve amounted to 4416*l*. 15s. 6d. The monthly sales had risen from of pig lead in July, 1876, to 23 tons per month in May and June year, showing a gradual and satisfactory increase. During the three months—that was since the date to which the accounts made up—the sales had realised 1724*l*., showing a still further upon the preceding months. The monthly output of pig-lead mine now amounted to about 25 or 30 tons. During the week stoping had been commenced on a discovery in the Limestone stratum—a most important feature in the mine, that

...ebest portion of the property. The discovery was on a vein ...f the Sun vein, and to the east it was worth 2 tons of silver-...r fathom, and was likely to continue, if not increase in value. ...ein was rich in silver, giving about 14 to 15 ozs. to the ton, ...brought up the value of the stuff to about 21*l.* or 22*l.* per ton ...smelted. This in the course of time would very materially ...their returns. It would be possible at once to very greatly ...the returns if they were to continue stoping towards the ...Westgarth shaft, but to do so would, in the words of their ...be "plucking the fruit before quite ripe." At Jefferies' ...are at present working east and west. It was expected ...the cross-cut at the 40 would intersect a vein from which ...great riches had been reaped in other parts of the mines. A ...at the plans would have shown the shareholders the very ...tent of the company's sett, and surrounded as it was by the ...of the London Lead Company and Mr. Beamont's mines, and ...of the richest lead producing districts in the kingdom, there ...reason to doubt that this mine, which had already given ...h results from its shallower workings, would sustain, if not ...the past as it sunk in depth. It was, however, a property ...quired time, capital, labour, and skill expended on it. Now, ...as an all-important element in the success of an undertaking ...kind, and all gentlemen connected with mining had no doubt ...ir attention directed of late to the introduction of boring ...s for working mines, driving levels, sinking shafts, &c., ...lly in hard rock. The directors had given a great deal of at-...n to this subject, and had witnessed numberless experiments ...purpose of ascertaining the best possible machine. The fol-...day they were going down to Leicestershire to see two ma-...at work, one of which they hoped would suit the purposes ...company. The cost of a drilling machine, with its necessary ...s, would be between 500*l.* and 600*l.* A machine of that price ...be moved from place to place as occasion required. The great ...the board were anxious to develope with this machine was ...und lying between Jefferies' shaft and Westgarth shaft—a dis-...of 90 fathoms. Those two points connected would give them ...ground to the extent of 1200 to 1400 fathoms, but to get ...that distance in hard rock all the way by hand labour would ...12 to 15 months, at a cost of about 8*l.* per fathom. By the ...however, they hoped to accomplish the work in five months, ...less cost; the owners of the machine were sanguine enough ...four months. With the prospect of great riches before them ...ing of time was a very important consideration. That boring ...ch successfully accomplished the next step would be to drive ...west, where there laid virgin ground to an enormous extent, ...they had reason to believe was as rich as any other part of ...ine. All that work would employ the machine for a con-...able time to come at a great saving in the cost of labour alone. ...n shaft was now down to the top of the limestone, where ...were 350 fathoms of ground to be driven to Jefferies' shaft, ...ere, consequently, the machine would be of incalculable ser-...The amount of ground that would be laid open by these dif-...operations would take years and years to exhaust. From the ...the shareholders would see the amount of work accomplishd ...company since it took possession of the property in June, ...and also the gradual rise which had taken place in the value ...stuff raised. It would be erroneous to suppose that there had ...been incurred in the working; on the contrary, a very consi-...profit was apparent if the mere cost of producing the lead ...set against the amount it realised. Financially the company ...in a very favourable position, having 15,379*l.* of unexpended ...Of that sum 8000*l.* was held in reserve to complete the ...of the freehold. The company had yet nine months in ...to exercise the option of acquiring the freehold of the mine, ...urally the board deferred exercising that option until the ...of the mine was more fully assured. (Hear, hear.) Thus ...had plenty of money with which to develope the mine into a ...ently profitable property. He (the Chairman) concluded by ...for the adoption of the report and accounts.

...LAMB seconded the resolution, which was then put and ...unanimously.

...rs. Brandt, Stansfield, and Co. were then re-elected auditors of ...pany.

...CHAIRMAN next intimated that two qualified shareholders ...ified their readiness and desire to act as directors of the ...y if it were thought desirable to increase the board from ...to be maximum of five allowed by the Articles. He desired ...the matter before the meeting, and hear the opinion of those ...upon it; the directors would heartily work with either or ...the gentlemen referred to.

...a brief discussion it was resolved not to increase the board, ...shareholders expressing their perfect confidence in the direc-...as at present constituted.

...vote of thanks to the Chairman, directors, and staff of the com-...closed the meeting.

ROOKHOPE LEAD MINING COMPANY.

...first ordinary general meeting of shareholders was held at ...ffices of the company, Austinfriars, on Thursday,

Mr. E. W. WINGROVE in the chair.

...J. H. MURCHISON (the London manager and secretary) read ...notice convening the meeting and the report:—

...The directors have pleasure in laying before you a very satisfactory report ...of progress of the mine since the establishment of the present company, and ...also and prospects.

...will be seen by the accounts that there have been sold 410 tons of lead ore, ...8 fothms, and your directors may state that in the last three months the re-...(tons per month) have exceeded the working costs by nearly 180*l.*, not-...ding a fall in the price of lead ore since the beginning of the year of nearly ...*l.* For the present month there have been sampled 50 tons.

...Attention is being given to the dressing machinery for the purpose of render-...more efficient for treating a larger quantity of stuff, and it is hoped that in ...time the returns will be at least doubled.

...J. H. Murchison calculates that there are 2500 fathoms of ore ground opened ...the 25 and 42 fm. levels, which he estimates at the very low rate of 10 cwts. ...ton, and which would, therefore, yield at least 1250 tons of lead ore; but ...directors have reason to believe that it will be found considerably more pro-...He also estimates that the ground still standing above the 25 will yield ...quantity at least equal to one-fourth what has been taken away; beyond this ...states that the ground in back of the 42, between the Gin shaft and the ...it will give at least 1800 tons of ore, and in stating this he expresses his ...ew within what it will likely realise. The 42 will be under the rich ...the 25 in two months, and at this point a great improvement in the lode ...expected. Your directors feel justified, therefore, in congratulating you ...having a good and substantial property which will pay well, though to what ...be dependent much on the prices obtained for the ores.

...With regard to the other two mines held by the company, your directors ...strongly advised by Mr. Blenkiron and others to take immediate steps ...mence work at Brandon Walls, at which mine a large sum of money was ...the late company in placing it in a sufficient state for development. Ac-...to the estimates received the amount of unexpended capital will be con-...more than sufficient to bring that mine into a paying condition; but ...directors think it desirable to bring the mine at present in operation (Stots-...) into a dividend state before laying out any money on Brandon Walls. ...must be forgotten, however, that this part of the company's property will ...in the course add materially to the profits.

...The accounts have been audited by Mr. T. S. Evans, public accountant, Buck-...whom the directors appointed auditor, and who offers himself for re-elec-...at this meeting.

...CHAIRMAN, in moving that the report and accounts be ...received and passed, said: I am sure, gentlemen, it is a great grati-...fication to the directors at the first meeting of the resuscitated com-...pany that they are able to present you with a report which I think ...will be received by the shareholders with unqualified satisfaction. ...(Hear, hear.) The accounts, which have been made up to so late a ...date as September 14 last, show an unexpended balance of ca-...pital on that date of 2220*l.* 6s. 9d., while the sales that this com-...paratively short time made have amounted to 410 tons, at an average of ...14*l.*, realising the sum of 4949*l.* The cost of producing that ...lead, the very heavy dead work expenses which have been in-...curred, to which I shall afterwards refer, have been 6744*l.* You ...will see that no credit has been taken in the accounts for the quan-...tity of stuff which is broken underground, which must at this mo-...ment amount to many hundred tons. This has, of course, cost ...something, but the outlay does not appear, and is unalluded to in the ...accounts.

A SHAREHOLDER: Will you allow me to interrupt you one mo-...ment? Referring to the company's liabilities you will see the item ...of creditors 1025*l.*, which you do not seem to have included in ...the

The CHAIRMAN: It is all charged on the other side. The item of sundry creditors is included in the costs set forth on the other side. Well, gentlemen, I think upon reviewing the results achieved to this date the shareholders will be inclined to congratulate themselves upon the effort they made now 15 months ago to save this company from the fate that was then impending over it. (Hear, hear.) You may remember that at that time it was almost resolved to wind up the company, and abandon the undertaking; and it was only by the determined efforts, principally of our London manager and a few shareholders, that we have been able to save the property, and bring it into its present, I think, very satisfactory condition. Also I consider that great praise is due to the executive at the mine. Mr. Blenkiron, our agent, who is present, has superintended the opening out of the property, and has been very ably seconded in his labours by the mining captain, Mr. Brown, who has been a miner all his life. He does not profess a scientific knowledge of machinery or dressing operations, yet, nevertheless, has done well, so far as his capabilities allow. And when I point out what has been done since the company took possession of the mine I think you will agree with me that great energy and diligence have been used. The old shaft—the Gin shaft—had been, you will remember, abandoned for many years. From the surface to the adit it had fallen in, and was choked up. The shaft was a complete ruin. Thus the whole of this work had to be commenced anew. At present we have sunk to the 25 fm. level, and it is opened to the 42. And in the course of another fortnight we shall be able to draw from that shaft. This has proved to be the richest portion of the mine. The level has been driven from this point (referring to the plan) to the Gin shaft, and in a very short time—a few weeks only—it will be under this winze, where very rich ore was seen. The ground in this spot has been estimated at 4 to 5 tons per fathom.

A SHAREHOLDER: Was it not at one time estimated at 6 to 7 tons per fathom?——The CHAIRMAN it has been variously estimated, but I desired to put a moderate value upon it. At the same time it is immaterial what the estimates are when we shall soon have actual proof of its value. The whole of this ground, from the engine-shaft to this point, is at present unworked—untouched, and the time will come as soon as this communication is made to open winzes and commence stoping. The ground through the whole length of the 25 is estimated as worth ½ ton per fathom, more in some parts. That would give us 2500 fms. of stoping ground. You will notice in the rough plan the old mine workings which were in operation many years before our company started. Well, since we have taken charge of the mine we have discovered in many places that as much lead is left standing there as has been taken away, so that I may fairly say, repeating the words of our agent, that we have at the present moment reserves sufficient to last for 20 years to come, treating the ore at the rate of 100 tons per month, provided always that we have adequate dressing machinery.

Mr. BLENKIRON said he had not exactly put a definite estimate upon the amount, at the same time he had every reason to believe that the reserves were sufficient to last for a very considerable number of years. As he stated in his report, he calculated that the whole of the ground above the 25 to surface would produce at least equal to one-fourth the quantity of ore that had been already taken out.

Mr. MURCHISON: Mr. Blenkiron certainly said 20 years when we met him at the mines last month. It was his own volunteered statement. He also said that he could supply stuff for 100 tons of ore per month if we could dress it.

The CHAIRMAN: I do not wish to colour this statement in any way, and, therefore, I will confine myself to the exact wording of the report, for which both the directors and agent must, of course, hold themselves responsible. Therein we say—"Mr. Blenkiron calculates that there are 2500 fathoms of ore ground opened between the 25 and 42, which he estimates at the very low rate of 10 cwts. per fathom, and which would, therefore, yield at least 1250 tons of lead ore, but your directors have reason to believe that it will be found considerably more productive. He also estimates that the ground still standing above the 25 will yield ore in quantity at least equal to one-fourth what has been taken away. Beyond this he calculates that the ground in the back of the 42, between the Gin shaft and the boundary, will give at least 1800 tons of ore, and in stating this he expresses his wish to keep within what it will likely realise. The 42 will be under the rich winze in the 25 in two months, and at this point a great improvement in the lode may be expected."

Mr. MURCHISON: And Mr. Blenkiron concludes his report as follows:—"Most of the ore raised since I have been connected with the mine has come from parts or ground that had been abandoned. Now that we have good access into the mine, with cuttings and deads from high dressing floors to fill up open ground, it can be worked to a profit. I trust we shall be able to sample at least 50 tons of ore this month." So that nearly all the ore ground opened in the past two years was still standing in the mine.

The CHAIRMAN: Then, with reference to the paragraph dealing with the dressing floors, I may mention that your directors have visited this mine several times in the course of the year, and the only—I will not say drawback—but the only disappointment that they have in any way felt has not been as to the machinery itself, although that will require some little alteration, but in respect to the confined space, and the limited supply of water, especially in a dry summer. In connection with this there are several matters which will, and are, engaging our very serious attention at the present moment. We are about to engage the services of a gentleman believed to be of high attainments as surface manager and superintendent of the dressing-floors. He is a young man who is desirous of pushing his way, and at an interview we had with him he afforded us complete satisfaction. He is used to works of a very much larger and more modern character, but he has stated that with the addition of some sieves and grates, and a better division or sorting of the orestuff, all of which will not cost more than 100*l.*, he will be able with the present machinery to dress in November next about 80 tons per month. (Hear, hear.) And the agent has said that if he can dress 80 tons he can keep him supplied with that quantity: 80 tons a month would yield upon our present limited capital a return of 30 per cent.—a result which I am sure will be gratifying to all concerned. (Hear, hear.) The alterations and improvements that he mentioned are ordered to be made, and will be on the spot very shortly, so that we are very sanguine of a great improvement in the dressing and quantity of ore treated taking place almost immediately. Now, it will be in the recollection of shareholders that the company possesses, besides this mine, two other mines adjoining—one, the Thorney Brow, which has been abandoned for several years, and another, at a distance of about ½ mile, called the Brandon Walls, which has been worked to some extent by the old company, who, upon the strength of very favourable reports received concerning the results achieved by its former workers, erected a very powerful wheel, and laid out all the necessary arrangements for opening out the mine. We have determined, and we hope the shareholders will think wisely, for the present not to spend any portion of our limited capital in working that mine, deferring any such operations until we have obtained satisfactory results from the existing property, and have succeeded to some extent in forming a reserve fund. But as the result of our visits to the property and conversations with the miners, a very interesting and important feature has presented itself—that our present Rookhope Mine may be worked from Brandon Walls at an expense, probably, not very much more than making sufficient reservoirs at Stotsfield Burn. At Brandon Walls there is an ample supply of water, and the wheel already erected there is powerful enough to drain the whole of the property, including all three mines. If in the course of time we can see our way to working the entire sett, I cannot help thinking that we have before us a future second to none in the kingdom. There is a vast amount of virgin ground between the two mines, and in my opinion we may reasonably expect that when the whole of that is opened up the yield of ore will average between 400 and 500 tons per month. At present, however, our exertions are entirely confined to Stotsfield Burn, and will be until that mine is paying dividends and forming a reserve fund. (Hear, hear.) The opening of the adjoining mine and the working of the Stotsfield Burn from the Brandon Walls is a question that will, I hope, be taken up at our next meeting.

The CHAIRMAN, replying to a question, said that to drive the necessary communication between the two mines would occupy about two years, and cost a sum of 2000*l.*

Mr. BLENKIRON thought as the ground was loose, and there was a thin bed to drive in, it might, perhaps, take less time.

The CHAIRMAN, answering other questions, said that the ground being soft a boring machine was unnecessary; the work could be equally well done by hand. The present price of lead was about 2*l.* less than at the beginning of the year, but there was every prospect of an improvement in the trade in metals.

Mr. MURCHISON stated that an offer of 11*l.* 12s. 6d. per ton for the 50 tons raised last month had been already received, but a higher price would most likely be obtained; the sale was not till next day. The gross result of the September working might be estimated at 587*l.* or 590*l.*, which had been obtained at a cost of 320*l.* to 330*l.*, thus leaving a good balance to the credit of the company.

The CHAIRMAN then formally moved the adoption of the report and accounts.

Mr. S. YORK (director) seconded the resolution, which was put and carried unanimously.

Mr. BLENKIRON, replying to a shareholder, said that the dressing last month had cost about 30*l.* The orestuff gave an average of 19 per cent. of lead, and it was dressed up to 70 to 72. The cost of dressing came to 15s. or 20s. per ton, but it diminished according to the quantity treated.

The CHAIRMAN, referring again to the supply of water, said that it was the scarcity of water at Rookhope that had led to the consideration, if practicable and funds allowed, of working the mine from Brandon Walls, where there was an ample supply, and the dressing-floors were capable of breaking all the ore raised.

On the motion of Mr. DIXON, seconded by Mr. LAMB, Mr. T. S. Evans was appointed auditor to the company.

Mr. GREAME had much pleasure in moving a vote of thanks to the directors and officers of the company for the services rendered by them during the past year.

Mr. LAMB seconded the proposition, which was duly passed.

The CHAIRMAN acknowledged the compliment, and the proceedings closed.

SOUTH CARADON MINING COMPANY.

At a general meeting of shareholders, held at the mine, on Tuesday (Mr. RICHARD KITTOW in the chair), the accounts for fifth, sixth, and seventh months showed a profit of 1029*l.* 5s. 5d. A dividend of 512*l.* (1*l.* per share) was declared, and the balance of 2778*l.* 13s. 10d. carried to credit of next account. The following report was read:—

Oct. 2.—I am pleased in being able to report our mine continues to look just as well as it has for some considerable time past, and as it will be seen produces the usual quantity of high quality ores.

The gradual decline in the value of copper during the last twelve months, and more especially the last three, places this as well as all other mining properties in a position of difficulty. We feel, therefore, it is due to the shareholders living at a distance, and others not present at the meeting, to be informed that at our July account no further depression in the copper market was anticipated, but a serious decline followed; at the last sale, on Sept. 20, it reached a point previously unknown—about 9s. per unit, or making a difference in three months' sales of near 1500*l.*

In consideration of these facts, although a profit of more than 1000*l.* has been realised since the last meeting, we cannot now recommend the declaring of more than 1*l.* dividend, as having regard to the future prosperity of the property, we think it most advisable to have a sufficient balance in hand to meet any contingency. We hope an improvement in the standard will shortly take place, when, if not required, this sum now added to the balance will be at the disposal of the shareholders.—JOHN HOLMAN.

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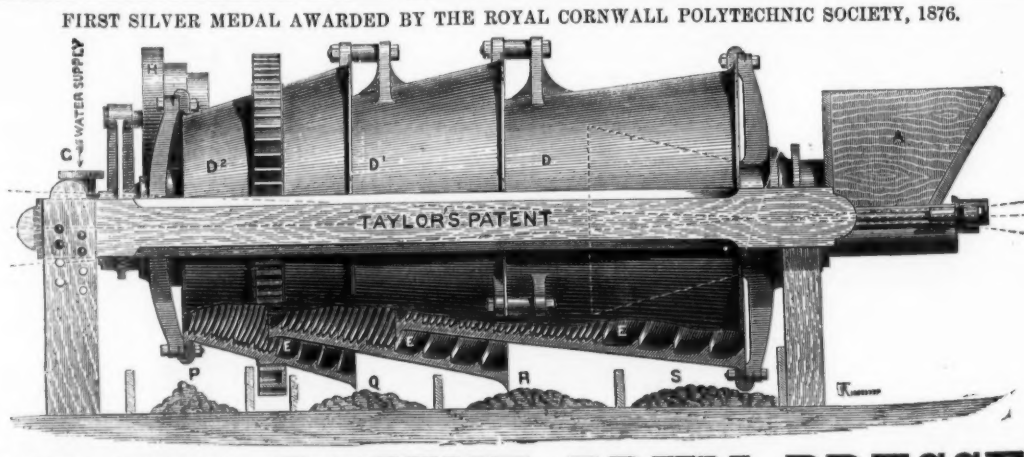

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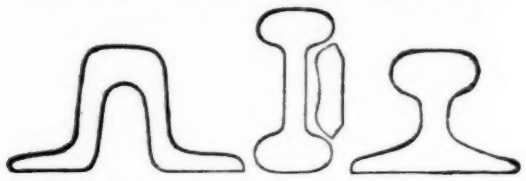

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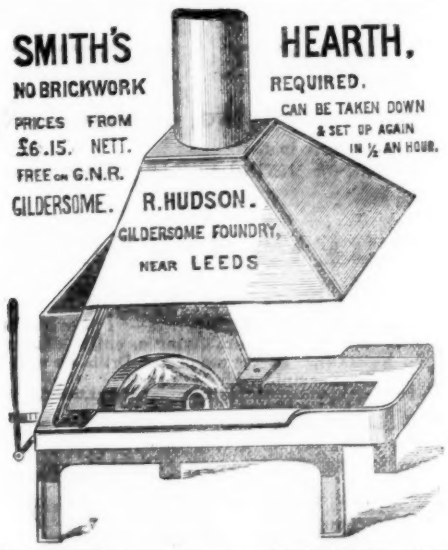

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References to many eminent firms who have used them constantly for years, amongst whom may be mentioned Sir W. Armstrong and Co.; Elswick Engine and Ordnance Works, Newcastle; R. Stephenson and Co., Engineers, Newcastle; R. and W. Hawthorn, Engineers, Newcastle; Hawkes, Crawshay, and Sons, Engineers, Gateshead-on Tyne; Abbot and Co., Engineers, Gateshead-on-Tyne.
Samples, prices, &c., on application. AGENTS WANTED.

MAPS OF THE MINES, AND OF UTAH TERRITORY.

FROISETH'S NEW AND REVISED MAP FOR 1875.—Size 40 by 56 inches, scale 8 miles to the inch. Handsomely engraved, coloured in counties, showing the Towns, Settlements, Rivers, Lakes, Railroads, Mining Districts, &c., throughout the Territory, and all the Government Surveys to date. Mounted on cloth, £2; half-mounted, £1 12s.; pocket form, £1.

Also, GENERAL MINING MAP OF UTAH, showing twenty-eight of the principal Mining Districts adjacent to Salt Lake City, and location of the most prominent mines. Price, pocket form, 6s.

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For sale, and supplied by—
TRUBNER and Co., 57 and 59, Ludgate Hill, London; or
B. A. M. FROISETH, Salt Lake City, Utah, U.S.

BLAKE'S PATENT STEAM PUMP.

MORE THAN 10,000 IN USE.

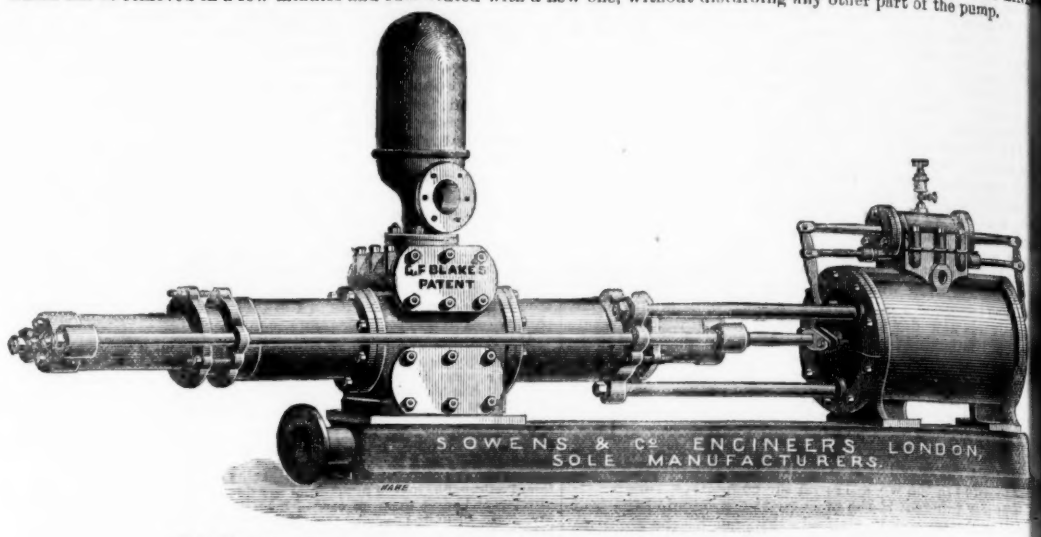
SOLE MAKERS FOR GREAT BRITAIN,

S. OWENS & CO.,

Hydraulic and General Engineers, Whitefriars-street, London.

Agent in Scotland: W. Hume, 195, Buchanan-street, Glasgow.

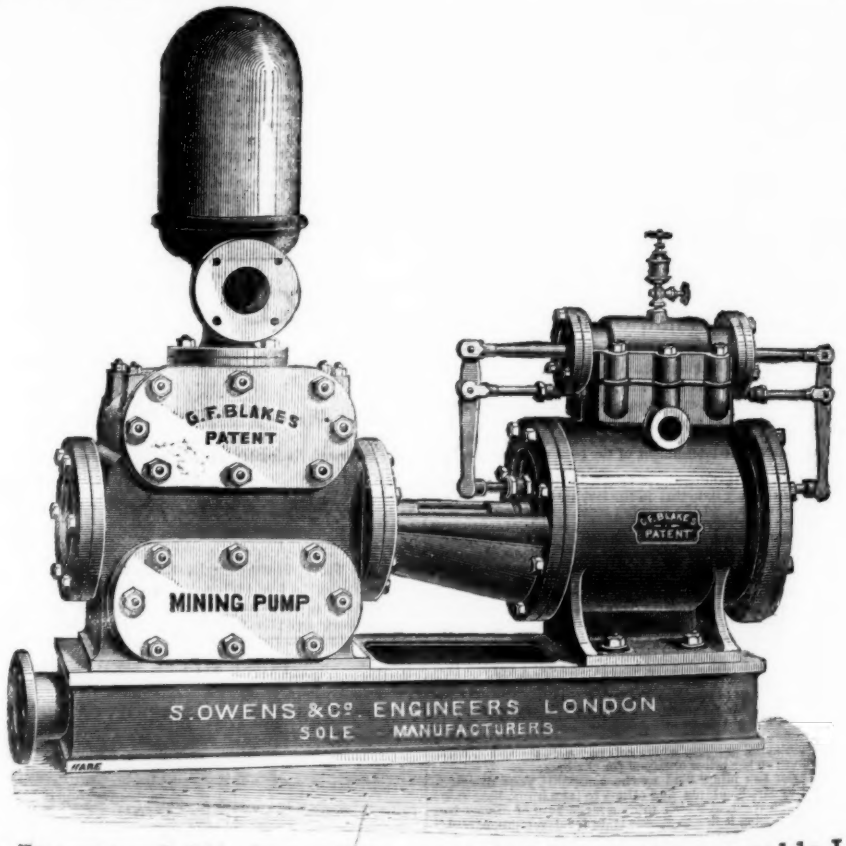
These PUMPS from their SIMPLICITY, RELIABILITY, DURABILITY, and ECONOMY are SPECIALLY SUITED FOR MINING PURPOSES, where large quantities of water require to be raised from great or medium depths with CERTAINTY. They are double-action in their construction, throwing a constant stream of water, can be made of any stroke to suit the space in which they have to work, can be arranged with any combination of steam and water cylinders to suit the pressure and lift against which desired to work them, are made of the very best materials and highest class of workmanship, and all working parts can be readily got at by any ordinary workman, and replaced if necessary by a duplicate part (all such being interchangeable) in the shortest possible time. For situations where gritty and sandy water has to be pumped the DOUBLE PLUNGER PATTERN is recommended. Where space is limited the PISTON PUMP is better suited, a novel feature of which is the PATENT REMOVEABLE LINING which can be removed in a few minutes and substituted with a new one, without disturbing any other part of the pump.



Blake's Improved Double-plunger Steam Pump.

S. OWENS AND CO.,

In placing the BLAKE STEAM PUMP before the mining world, believe they are offering the BEST, MOST RELIABLE, ECONOMICAL PUMP that has yet been made, and solicit an inspection of various sizes in operation at their works, Whitefriars-street, Fleet-street, London.



Blake's Improved Mining Pump, with Patent Removeable Lining to Pump Cylinder,

Any combination of these Pumps may be had to suit circumstances. The following are some of the SIZES SUITABLE FOR MINING PURPOSES:—

Dia. of steam cylinders.. In.	12	12	12	12	14	14	14	16	16	16	16	18	18	18	18	20	20	20	20	24
Dia. of water cylinders.. In.	3	4	5	6	4	5	6	4	5	6	8	4	5	6	8	5	7	8	9	6
Length of stroke ... ... In.	18	18	18	24	24	24	24	24	24	24	24	24	30	30	30	30	30	36	36	36
No. of strokes per minute..	30	30	30	30	25	25	25	22	22	22	22	22	22	22	22	20	20	17	17	17
Quantity in gallons per hour, approxmately ..	1440	2610	4200	5940	2940	4620	6600	2646	4158	5940	10620	2646	5160	7500	13260	4586	9000	12360	15660	6720

PRICES FOR THE ABOVE, OR ANY SPECIAL SIZE, AND ILLUSTRATED CATALOGUES FURNISHED ON APPLICATION.

PATENT CONDENSERS

can be supplied for any size pump to effect a saving of fully 30 per cent. in the consumption of fuel, greatly increasing their efficiency.

The Blake Pump will work under water, and as efficiently with compressed air as with steam.

BLAKE'S DONKEY PUMPS FOR FEEDING BOILERS KEPT IN STOCK.

CHAPLIN'S PATENT PORTABLE STEAM ENGINES & BOILERS.

STATIONARY ENGINE. No building required. | HOISTING ENGINE. With or without Jib. | STEAM CRANE. For Wharf or Rail. | CONTRACTORS' LOCOMOTIVE. | TRACTION AND ROADWAY ENGINE. | SHIPS ENGINE AND DISTILLER. | PUMPING AND WINDING ENGINE.

The ORIGINAL combined Vertical Engines and Boilers, introduced by Mr. CHAPLIN in 1855, specially designed and adapted for

Pumping, Winding, Hoisting, Sawing, Driving Machinery, and for General Contractors' Work, Railway Sidings, Coal Mines, Quarries, Gas Works, &c.

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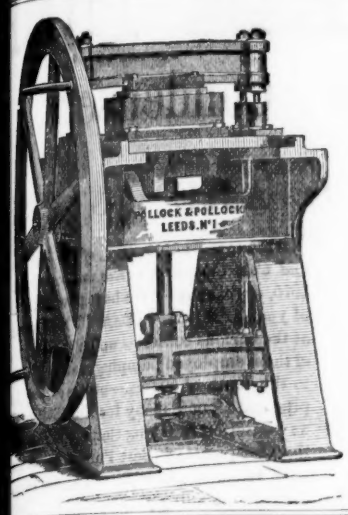
WORKS:—REGENT'S CANAL DOCK, 602, COMMERCIAL ROAD EAST, LONDON, E. (Near Stepney Station).

Parties are cautioned against using or purchasing Imitations or Infringements of these Patent Manufactures.



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LONGCLOSE WORKS, NEW TOWN, LEEDS,

POLLOCK'S PATENT BRICK PRESS,

The New "XL" Brick-Making Machines,

THE CHEAPEST AND BEST IN THE MARKET.

Improved Grinding Pans, with patent self-acting delivery.
Vertical and Horizontal Engines.

COLLIERY ENGINEERS.—WINDING ENGINES OF ALL SIZES.

POLLOCK AND MITCHELL'S PATENT KILNS are the Cheapest and Simplest.

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HADFIELD'S STEEL FOUNDRY COMPANY,

ATTERCLIFFE, SHEFFIELD,

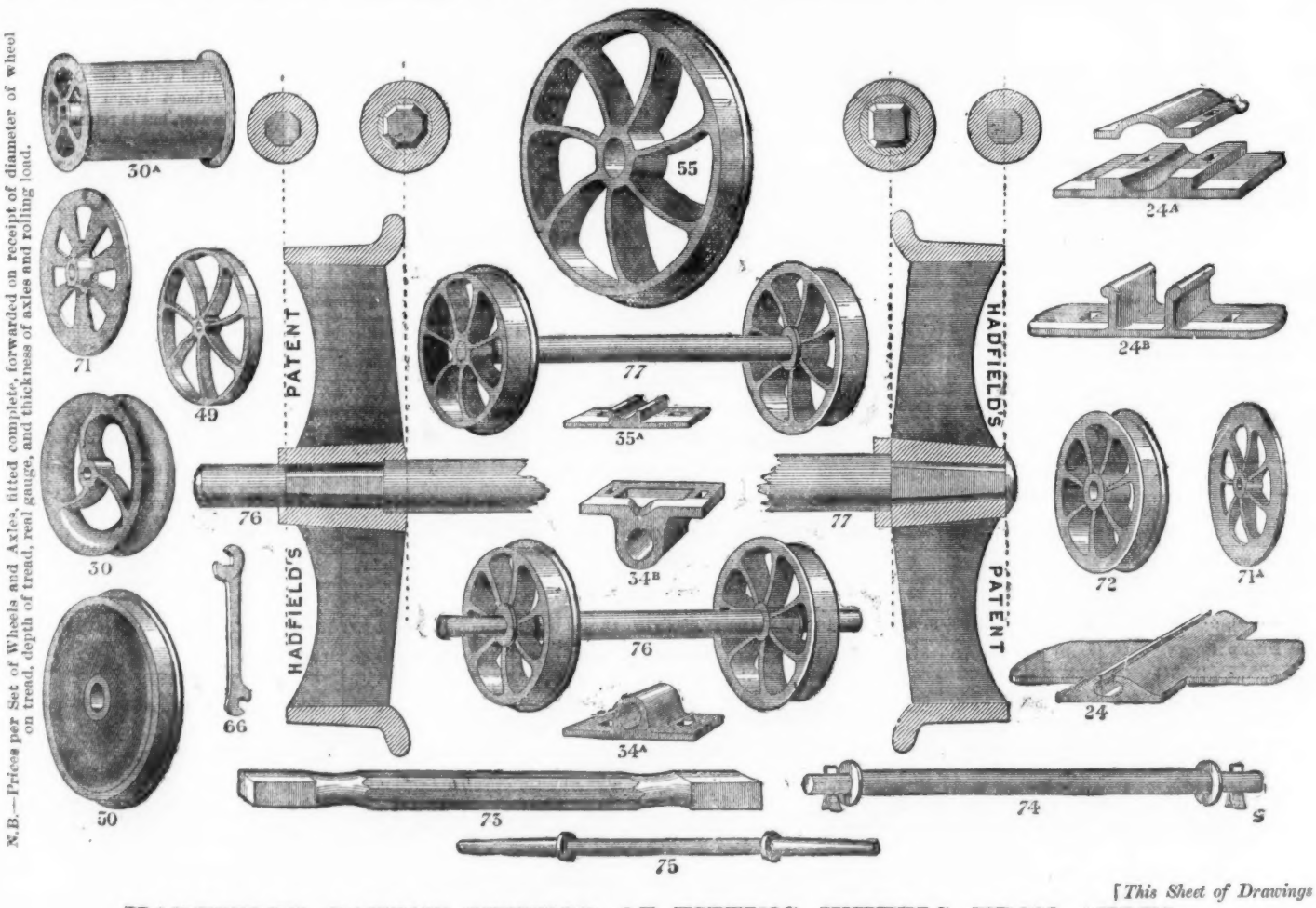
DEVOTE THEIR EXCLUSIVE ATTENTION TO THE MANUFACTURE OF

RUCIBLE STEEL CASTINGS, for Engineering and Machine Purposes,

AND ARE THE SOLE MAKERS OF

HADFIELD'S CRUCIBLE STEEL WHEELS.

One of our departments is specially adapted for the manufacture of these Wheels (as shown below), for Collieries, Ironstone Mines, Slate Quarries, Ironworks, Lead Mines, &c., &c. We have made, and are now making, many HUNDRED THOUSANDS; and having Patented a New Method of Fitting Wheels upon axles, being cheap, effective, and expeditious, we can execute orders entrusted to us with promptitude, our capacity in this department alone being equal to about 2000 wheels per week.



N.B.—Prices per Set of Wheels and Axles, fitted complete, forwarded on receipt of diameter of wheel on tread, depth of tread, real gauge, and thickness of axles and rolling load.

[*This Sheet of Drawings is Copyright.*

HADFIELD'S PATENT METHOD OF FITTING WHEELS UPON AXLES.

The advantages of the above system are that the Wheels being forced upon a Taper Square-ended Axle, by Machinery, and then riveted (the machine securing truth), it is impossible that they can come loose or get within gauge. They are very cheaply fitted on, and run exceedingly true.

We construct the Arms of wheels upon the curved principle (as shown in the drawings above), consequently the shrinkage or cooling of the Castings is not interfered with, thus securing the greatest advantages of our very strong material.

CRUCIBLE CAST-STEEL WHEELS, when cast by us, are made from one-third to one-half lighter than Cast-Iron. They cannot be broken while working, even with rough usage, and will wear at least twelve times as long as Cast-Iron, thus saving animal and steam power, and reducing wear and tear immensely.

We would also draw special attention to our INCLINE PULLEYS and CAGE GUIDES, the adoption of which will prove highly advantageous.

PARIS INTERNATIONAL EXHIBITION, 1867.

VIENNA INTERNATIONAL EXHIBITION, 1873.

LONDON INTERNATIONAL EXHIBITION, 1874.

CORNWALL POLYTECH SOCIETY, 1867 and 187

TANGYE BROTHERS AND HOLMAN,

10, LAURENCE POUNTNEY LANE, LONDON, E.C.,

AND BIRMINGHAM, (TANGYE BROTHERS), CORNWALL WORKS, SOHO.

The "SPECIAL" DIRECT-ACTING STEAM PUM

WITH

Holman's Patent Self-acting Exhaust Steam Condensers.

UPWARDS OF 12,000 "SPECIAL" STEAM PUMPS ARE IN US

After eight years of successful application for all purposes to which steam-driven pumps can be applied, THE "SPECIAL" STEAM PUMP STILL MAINTAINS THE FIRST POSITION IN THE MARKET, notwithstanding that it alone—of all direct-acting pumps—has been subjected to the great variety of severe tests that must be encountered in such a period of time. Some valuable improvements have been suggested in the course of a long experience, and their adoption has rendered the apparatus at once the simplest and most certain in action. There is absolutely no extraneous gear, and the steam cylinder is *no longer than the pump*. The valves are of easy access, and are suited for pumping fluids and semi-fluids of almost any consistency.

Holman's Condenser

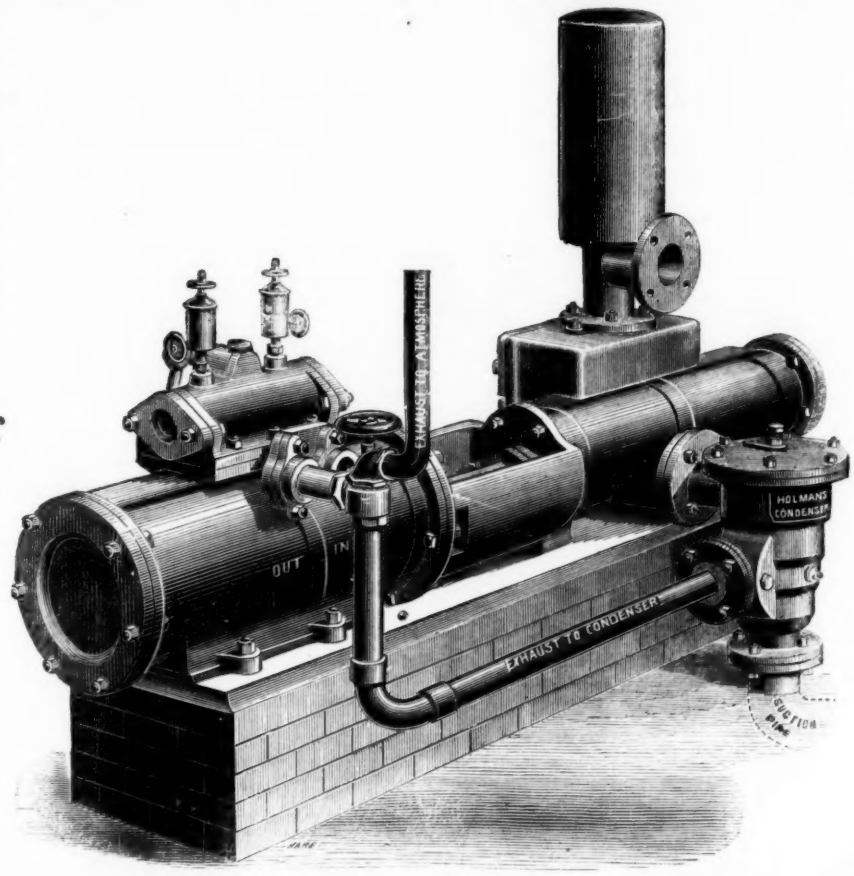
TURNS WASTE STEAM INTO GREAT POWER.

SAVES HALF ITS COST IN PIPES AND CONNECTIONS.

PREVENTS ALL ESCAPE OF STEAM IN MINES OR ELSEWHERE.

REQUIRES NO EXTRA SPACE.

SAVES TWENTY TO FIFTY PER CENT. OF FUEL.



WILLIAM ELLIOT, Esq., *of the Wearda and Coal Company, writes under date Sept* 1875, *as follows:*—"We have now THIRTY of your SPECIAL STEAM PUMPS in op at the various collieries under my charge of them employed pumping water out of o to the depth of 50 fms.—others employed pits, and a good many feeding Boilers. no hesitation in saying that we have found the Cheapest and Best Pumps of the k have tried. I can with confidence reco them to intending purchasers."

Messrs. BURT, BOULTON, and HA *Chemical Manufacturers, of London,* FORTY of the "SPECIAL" STEAM PU use at their works.

HOLMAN'S CONDENSE

Are made to suit any size and kind of Pump. They form a part of the suction of the Pump, and while they effectually dense the exhaust steam they produce a rage vacuum of 10 lbs. per square inch o steam piston, increasing the duty of the E and effecting a saving in fuel of from 20 per cent.

In Mining operations these Condensers be of great value.

All Boiler Feeders are recommended fitted with these Condensers, as not only exhaust steam utilised in heating the water, but is returned with it into the boi

GREAT REDUCTION IN PRICES.

The following sizes are suitable for low and medium lifts:—

Diameter of Steam Cylinder ...In.	3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	10
Diameter of Water Cylinder ...In.	1½	2	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4	5	6	7	8	5	6	7	8	9	5
Length of Stroke .....In.	9	9	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,500	5000
Price of Special Pump ...£	**16**	**18**	**20**	**25**	**22 10**	**27 10**	**32 10**	**25**	**30**	**35**	**40**	**30**	**35**	**40**	**45**	**50**	**40**	**45**	**50**	**55**	**65**	**50**	**55**	**60**	**70**	**85**	**55**
Extra, if fitted with Holman's Condenser and Blow-through Valve	£7	£7	£9	£11	£8 10	£11 10s	£12 10s	£9	£12	£15	£15	£10	£13	£15	£16	£22	£13	£16	£16	£22	£22	£16	£16	£23	£24	£35	£17

CONTINUED.

Diameter of Steam Cylinder..In.	10	10	10	10	12	12	12	12	12	12	14	14	14	14	14	14	16	16	16	16	16	18	18	18			
Diameter of Water Cylinder..In	7	8	9	10	6	7	8	9	10	12	7	8	9	10	12	14	8	9	10	12	14	9	10	12			
Length of Stroke .....In	12	18	24	24	18	18	18	24	24	24	24	[illegible]	24	24	24	24	24	24	24	24	24	24	24	24			
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000			
Price of Special Pump..£	**65**	**75**	**90**	**100**	**75**	**80**	**85**	**110**	**120**	**140**	**110**	**120**	**130**	**140**	**160**	**180**	**140**	**150**	**160**	**180**	**200**	**180**	**190**	**210**			
Extra, if fitted with Holman's Condenser and Blow-through Valve	£23	£24	£35	£35	£20	£27	£27	£38	£38	£50	£28	£28	£40	£40	£55	£55	£28	£40	£40	£55	£55	£45	£45	£56			

Intending purchasers of Steam Pumps would do well to observe the great length of stroke, short steam cylinder, and short piston of the "Special" Steam Pump, as compared with the short stroke, long steam cylinder, and long pi the Pumps of other makers, as the efficiency and durability of the machine, and the space occupied by same, greatly depend upon this. The advantage of long strokes will be obvious when purchasers are reminded that each set of suction delivery valves of a "Special" Steam Pump with 24 in. stroke, running at 120 ft. per minute, would open and close only 30 times per minute, as against 120 times per minute in a Pump with only 6 in. stroke performing same duty.

The "Special" Steam Pump can be worked by Compressed Air as well as by Steam.

HUNDREDS of these PUMPS are USED for HIGH LIFTS IN MINES, for which purpose they are made with 21, 24, 26, 28, 30, and 32-inch Steam Cylinders, and 36 48 and 72-inch St

The following Testimonial gives one Example of the Power Gained by the action of Holman's Patent Condensers:—

NORLEY COLLIERY, WIGAN.

MESSRS. TANGYE BROTHERS AND HOLMAN.

GENTLEMEN,—I have great pleasure in recording my entire satisfaction with the working of the Holman's Patent Steam Pump Condenser which you have supplied to us. The complete condensation of the steam is, apart from its value in the strict economic sense, a most valuable feature in the drainage of underground workings. The perfect manner in which this important result is accomplished by your Condenser is extremely creditable to you, and merits the thanks and commendation of the Mining Engineer. When we start the "Special" Steam Pump the Condenser commences working automatically, and maintains a constant vacuum of 10¾ lbs. per square inch, even when we run the Pump upwards of 80 strokes (106 feet) per minute. It may perhaps be interesting to you to know that when we were running the Pump at 84 strokes (168 feet) per minute, the steam gauge indicating a steam pressure of 36 lbs. per square inch, 80 yards from and the Condenser vacuum gauge on the exhaust pipe indicating a steady of 21½ inches, I turned the exhaust steam from the Condenser into sphere, when the speed at once fell to 44 strokes per minute. The economy thus shown is really so great that the cost of the Condenser in a very short time.

(Signed) J. THO

NORTH OF ENGLAND HOUSE ... ... TANGYE BROTHERS AND RAKE, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.
SOUTH WALES HOUSE... ... ... TANGYE BROTHERS AND STEEL, Tredegar Place, NEWPORT, Mon.; and Oxford Buildings, SWANSEA.

STEAM BOILERS

OF ALL KINDS MADE TO ORDER AT THE SHORTEST NOTICE BY THE

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London Agent—Mr. W. PARSEY, 46, FISH STREET HILL, E.C.

JOSEPH FENTON & SONS,

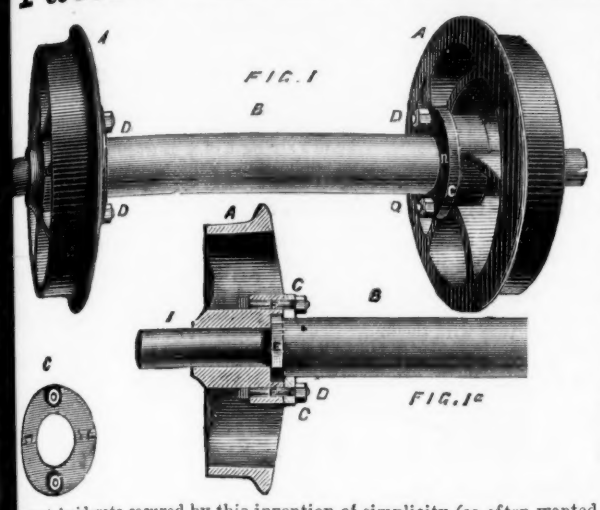
SYKES WORKS, SHEFFIELD, and 118, Cannon-street, LONDON, E.C.,

MANUFACTURERS OF

CRUCIBLE CAST STEEL CASTINGS,

HAVE PLEASURE IN CALLING THE ATTENTION OF THE MINING WORLD TO THEIR

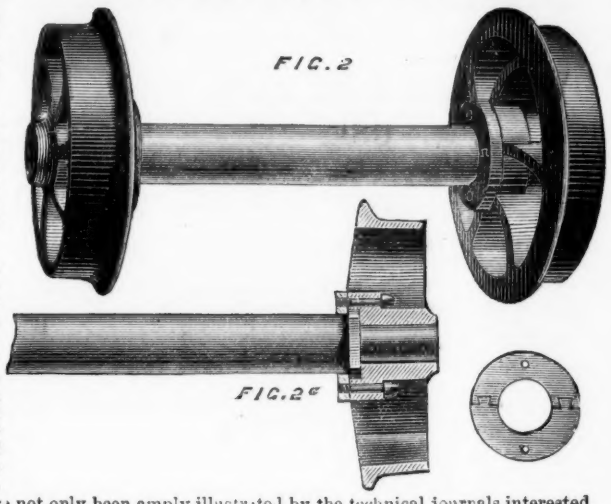
Patent Method of Fitting up Cast Steel Wheels and Axles.



Figs. 1 and 1a show a longitudinal view and plan of a pair of corf wheels and axles fitted up for outside bearings. A A, are the wheels; B, is the axle; C C, the washers; D D, the bolts; E, the collar on axle B; and F, the recessed boss in the wheel.

The wheel is cast with a recessed boss in the inside, made to any shape, corresponding in shape and depth with a collar formed on the axle. Figs. 2 and 2a show a longitudinal view and plan of a pair of corf wheels fitted up for inside bearings. The washers are secured to the boss of the wheel in outside bearings by bolts and nuts, and in inside bearings by set screws.

The advantages of the above system are:—A, the singular simplicity of fitting—enabling any inexperienced person, with the aid of a spanner or screw-driver, to detach the wheels from the axle or fit them together in a very short time. B, perfect solidity, the wheels and axles becoming as one piece. C, durability, no need or putting the wheels or axles into the fire, under any circumstances, which is so detrimental to wheels, rendering them remarkably brittle, and which under other systems are detached from the axle by the aid of fire. D, economy in fuel and wages, saving hundreds of pounds yearly to large coal owners. The



important desiderata secured by this invention of simplicity (so often wanted in patents), solidity, durability, and economy, have not only been amply illustrated by the technical journals interested the progress of mining operations in this country, but have at once been fully recognised by leading authorities in the mining world.

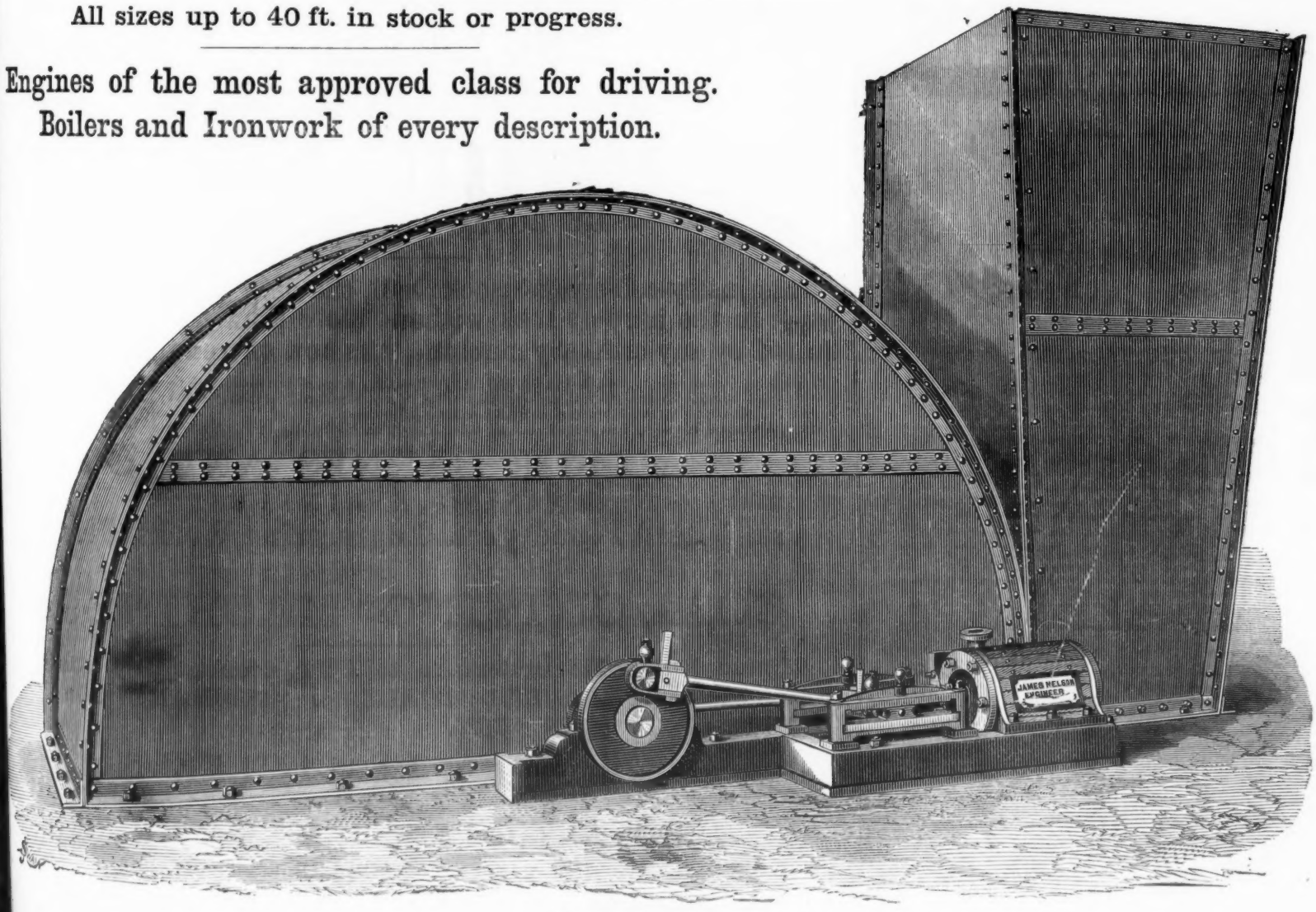
GUIBAL VENTILATING FAN

FOR COLLIERIES AND MINES.

PRICES AND PARTICULARS ON APPLICATION.

All sizes up to 40 ft. in stock or progress.

Engines of the most approved class for driving.
Boilers and Ironwork of every description.



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JAMES NELSON, Marine and Stationary Engine Works,

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H. R. MARSDEN, PATENTEE AND ONLY MAKER OF THE WELL-KNOWN BLAKE MACHINE

ORE CRUSHERS AND STONE BREAKERS,

WITH THE

New Patent Reversible

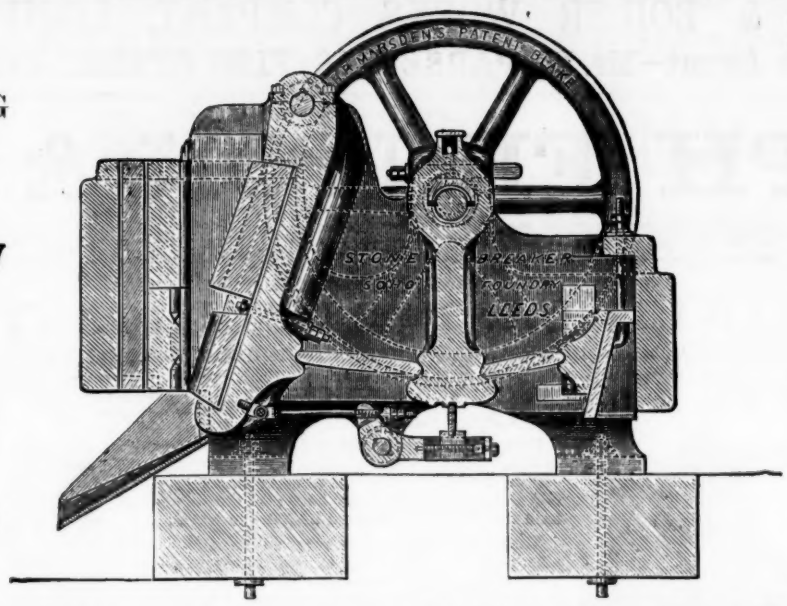
CRUSHING OR CUBING JAWS,

WHICH ARE CONSTRUCTED OF A PECULIAR MIXTURE OF METAL, WEARING

Four times longer than any other.

60 GOLD AND SILVER MEDALS.

OVER **2000** NOW IN USE.



For Crushing to any d of Fineness, or Break to a required size.

Her Majesty's Governm

USE THESE MACHINES

EXCLUSIVEL

ALSO ALL THE GREAT

Mining Companies of World.

H. R. M. has long observed the want of c machines,

STONE AND ORE CRUSHE

And has at length, by means of improved app for the production thereof, been enabled to the prices, yet keep up at the same time th known strength of construction. Reduced on application.

FIFTY per Cent., and upwards, saved by using these Machines.

TESTIMONIAL FROM MESSRS. JOHN TAYLOR AND SONS.

6, Queen-street-place, May 10, 1877.

DEAR SIR,—We have adopted your Stone Breakers at many of the mines under our management, and are pleased to be able to state that they have in all cases given the greatest satisfaction. We are, yours faithfully, JOHN TAYLOR AND SONS.

H. R. Marsden, Esq.

Royal Agricultural Show, Liverpool, July,

DEAR SIR,—I have broken over 40,000 tons of very hard LIMESTONE into ROAD M the Newport and other Road Trusts, in your PATENT STONE BREAKER, AND AL ONE PAIR OF JAWS, which are STILL IN USE. I do not think at all, but am quite s are the only Machines which fully perform the work you set them out to do, and there in the Show can at all compare with them. Yours, truly,

H. R. Marsden, Esq. WILLIAM PRICE, Contractor, Gold Cliff, Mon

INTENDING BUYERS ARE CAUTIONED AGAINST PURCHASING OR USING ANY OF THE NUMEROUS PATENTS OF H. R. MARSDEN.

ILLUSTRATED CATALOGUES, TESTIMONIALS, and every information, on application to:—

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The Barrow Rock Drill

COMPANY

Are NOW PREPARED to SUPPLY their DRILLS, the ONLY ONES that have been SUCCESSFULLY WORKED in the MINES of CORNWALL. At DOLCOATH MINE, in the HARDEST known ROCK, a SINGLE MACHINE has, since its introduction in July, 1876, driven MORE THAN THREE TIMES the SPEED of HAND LABOUR, and at TWENTY PER CENT. LESS COST PER FATHOM.

In ordinary ends two machines may be worked together, and at a proportionately increased speed. They are strong, light, and simple, easily worked, and adapted for ends and stopes, and the sinking of winzes and shafts.

The company are also prepared to SUPPLY COMPRESSORS, and all necessary appliances for working the said Drills.

Apply to—

LOAM AND SON,

LISKEARD, CORNWALL.

HEPBURN'S PUMP LEATHER WATERPROOF

By a special method of preparation, this leather is made solid, perfectly close in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

I. AND T. HEPBURN AND SONS,

TANNERS AND CURRIERS, LEATHER MILLBAND AND HOSE PIPE MANUFACTURERS,

LONG LANE, SOUTHWARK, LONDON

Prize Medals, 1851, 1855, 1862, for

MILL BANDS, HOSE, AND LEATHER FOR MACHINERY PURPOSES.

Now ready, price 3s., by post 3s. 3d., Sixth Edition; Twentieth Thousand Copies much improved, and enlarged to nearly 200 pages.

HOPTON'S CONVERSATIONS ON MINES, between Father and Son. The additions to the work are near 80 pages of useful information, principally questions and answers, with a view to assist applicants intending to pass an examination as mine managers, together with tables, rules of measurement, and other information on the moving and propelling power of ventilation, a subject which has caused so much controversy.

The following few testimonials, out of hundreds in Mr. Hopton's possession, speak to the value of the work:—

"The book cannot fail to be well received by all connected with collieries."—*Mining Journal.*

"Its contents are really valuable to the miners of this country."—*Miners Conference.*

"Such a work, well understood by miners, would do more to prevent colliery accidents than an army of inspectors."—*Colliery Guardian.*

London: MINING JOURNAL Office, 26, Fleet-street; and to be had of all booksellers

THE GREAT ADVERTISING MEDIUM FOR WALES.

THE SOUTH WALES EVENING TELEGRAM (DAILY), and SOUTH WALES GAZETTE (WEEKLY), established 1857, the largest and most widely circulated papers in Monmouthshire and South Wales. CHIEF OFFICES—NEWPORT, MON.; and at CARDIFF.

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